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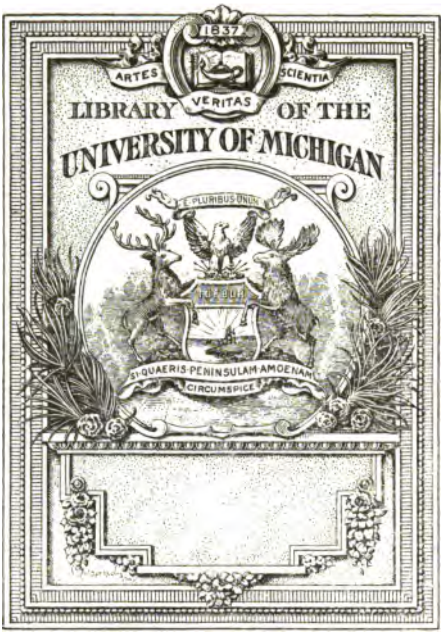

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SEVENTH ANNUAL REPORT

OF THE

STATE BOARD OF HEALTH

OF

INDIANA,

FOR THE

FISCAL YEAR ENDING OCTOBER 31, 1888.

TO THE GOVERNOR.

INSTITUTED, NOV. 3, 1881

INDIANAPOLIS:
WM. B. BURFORD, CONTRACTOR FOR STATE PRINTING AND BINDING.
1889

THE STATE OF INDIANA,
EXECUTIVE DEPARTMENT, December 27, 1888.

Received, examined by the Governor, and transmitted to the Secretary of State for publication upon the order of the Board of Commissioners of Public Printing and Binding.

PIERRE GRAY,
Private Secretary.

Filed in the office of the Secretary of State, of the State of Indiana, December 27, 1888.

CHARLES F. GRIFFIN,
Secretary of State.

OFFICE OF AUDITOR OF STATE,
INDIANAPOLIS, December 27, 1888.

The financial part of the within report, so far as the same relates to moneys drawn from State Treasury, has been examined and found correct.

BRUCE CARR,
Auditor of State.

165552

BOARD OF HEALTH REPORT.

To Hon. Isaac P. Gray,
Governor of the State of Indiana:

In compliance with section 4987 of the Revised Statutes of the State of Indiana, we herewith submit our Seventh Annual Report, of our "doings, investigations and discoveries" for the fiscal year ending, October 31, 1888, together with the vital statistics for the year ending September 30, 1888.

We are pleased to state that since our last annual report the health of the people has been remarkably good. Following the dry weather of 1887 there was considerable typhoid fever in different localities, but the mortality was rather light, considering the number of cases. There has been no serious epidemic. Small-pox made its appearance in a few places, but by the vigilance of our county health officers in the localities concerned, it was not permitted to spread beyond the limits of the original cases. In order to better facilitate the sanitary work, the State was divided into five districts, and each district assigned to a member of the Board. This division has been made quite recently, but promises good results.

Within the year sanitary inspections have been made of all the eleemosynary institutions in the State. Generally speaking these have been found to be in good condition. There are, however, a few exceptions in county poor asylums, which can not be remedied without new buildings, as the old ones are wholly unsuited to the purposes for which they were intended. In some instances the keepers of these places are totally unfit for the work required. This is no surprise, however, when it is known that in many instances the position of Superintendent is let to the lowest bidder without any reference whatever to qualifications. In another part of this report are found reports from members, of inspections made.

In order to convey some idea of the work done in regard to the public schools, your attention is called to the following circular:

STATE OF INDIANA,
DEPARTMENT OF PUBLIC HEALTH.
INDIANAPOLIS, August 8, 1888.

To County Superintendents of Schools:

The necessary confinement of children within the school room, coming as it does during the growing period of the body, and while it is the most susceptible to harmful influences, entails certain evils which have been too generally regarded as necessary accompaniments of school life. It is well known, however, that most of the diseases incident to school life are in quite a high degree preventable, and that one of the first and most important requirements in guarding against these diseases is to have the school houses placed in the best sanitary condition possible before the beginning of the fall and winter terms of school.

To insure a favorable hygienic condition for the schools, the following essentials are demanded:

1. To place the buildings in good repair.
2. Provide a proper supply of pure water.
3. Desks and seats of different heights should be furnished, to suit the ages of pupils.
4. To see that the grounds are properly drained, and to prepare gravel or board walks.
5. Proper ventilation without causing draughts of cold air to come in contact with the pupils.
6. The light should, if possible, be admitted from the left and rear of the pupils, NEVER from the front.
7. The rooms should be so warmed that all may be kept comfortable; stoves and furnaces in good order.
8. Blackboards should not be placed between the windows, and the surfaces of the boards should be a DEAD BLACK, not GLOSSY.
9. Suitable water-closets for each of the sexes should be provided. They should be situated far enough away from the house to secure privacy, and not be a nuisance. They should be kept in good repair, cleaned and disinfected at least twice a month, and be as far from the well as the size of the grounds will permit.

In order to insure immediate action, there is attached to this a blank order, which you will please fill up and issue to the proper authorities, and cause its enforcement.

By order of the Board:

C. N. METCALF, M. D.,
Secretary and Executive Officer.

. . . . IND., August . . , 1888.

To . . . .

Trustee of . . . . County, Ind.:

You will please cause the foregoing order of the Indiana State Board of Health to be rigidly enforced in your county.

. . . .

. . . .

County Superintendent of Schools.

This was distributed to all the Township Trustees in the State through and by the assistance of the county superintendents of schools. Very serious defects exist in district school houses in regard to ventilation, heating, drainage, water closets and lighting.

The Board regards the following to be the essentials to the sanitary welfare of the school children of the State:

1. "Buildings should rest on a good foundation, and be constructed to insure the comfort of the children during inclement weather.

2. "Class rooms should be arranged so as to admit light from the left side and back of the pupils, and the area of windows should be one fourth of the floor space.

3. "Not less than 250 cubic feet of air space should be allowed per pupil, and provisions for changing air should be made so as to secure to each pupil not less than thirty cubic feet of fresh air per minute.

4. "The temperature of the school room should, in winter be maintained at a range not to exceed from sixty eight degrees to seventy degrees Fahrenheit.

5. "Water closets should be provided for each sex, separate from each other and having entirely separate means of access and should be kept in good order."

It is gratifying to know that our school officers are generally alive to the needs of the schools and are ready and willing at all times to make needed improvements, as fast as the means at hand will justify.

Diseases of live stock, which by common consent have to a considerable extent been placed under the supervision of this Board have upon the whole not been more prevalent than usual.

Glanders and hog cholera are causing considerable mortality among horses and swine. For neither has there been found a remedy.

We renew our recommendations made in our last Annual Report, in regard to a State Veterinarian with provisions to pay for his services and traveling expenses. Under existing circumstances persons desiring his services are required to pay him, which in many cases they are unable to do. Thus the danger of spreading the disease is not averted, and others from no fault of their own suffer serious loss from this disease. In accordance with the powers of the Board the following was promulgated and circulated throughout the State:

INDIANA STATE BOARD OF HEALTH.

INDIANAPOLIS, IND., August 9, 1888.

WHEREAS, The Board of Health in the City of Indianapolis, in pursuance of its duties, has ordered the destruction of certain animals afflicted with what is known as "Big Jaw," in which discharge of duty it has met with prosecution at law, and

WHEREAS, Such disease is dangerous to public health, being possible of communication to man; therefore,

Resolved by the State Board of Health, in session, That it holds that Section 4994 R. S. 1881, plainly confers the power exercised by the Board of Health of the City of Indianapolis.

The State Board of Health in session, by resolution, further directs all city, town and county boards of health within its jurisdiction for the maintenance of the public health, to order the destruction of all afflicted with what is known as "Big Jaw" (including cancer of the jaw), pleuro-pneumonia and glanders. Upon failure to comply with such order after proper notification, said Boards are directed to proceed against such owners of diseased animals in accordance with provisions of Section 4994 R. S. 1881.

(As provided in Section 3154 R. S. 1881, town and city boards of health have the power to "carry out and enforce sanitary regulations" two miles beyond the corporate limits of the town or city in which they are located).

S. R. SEAWRIGHT, M. D.,
President.

C. N. METCALF, M. D.,
Secretary.

A convention of County, City and Town Health Officers was held June 7, 1888, at which time the following subjects were discussed:

1. Can the present method of reporting and recording vital statistics be improved in reference to practical sanitation? By W. J. Purkhiser, M. D.
2. The best mode of constructing jails, including sanitary arrangements, ventilation, heating, sewerage, etc.? By Howard LaForce, M. D.
3. Should we continue the present method of collecting vital statistics? By J. F. Hibberd, M. D.
4. What is the best method of educating the public in sanitary science? By I. W. Trees, M. D.
5. Have health officers the power, under existing laws, to prevent persons having contagious diseases from appearing upon public streets or at public gatherings? By J. E. Markle, M. D.
6. What amendments are necessary to our health laws to make them more efficient? By D. N. Berg.

7. How can Boards of Health of adjoining counties profitably coöperate? State Board.

8. What can Boards of Health do, and what are the best procedures to prevent the introduction of dangerous communicable diseases into localities free from such diseases? State Board.

9. What sanitary regulations are necessary in and about country schoolhouses? State Board.

S. R. SEAWRIGHT, M. D.,
President.

C. N. METCALF, M. D.,
Secretary.

The proceedings in full will be found elsewhere in this report.

A sanitary convention was held at Lebanon, Boone County, October 2, 1888. The proceedings will also be found in this report. A good interest was manifested in matters pertaining to public health. More of these conventions should be held as a means of education in sanitary matters, but the limited appropriation ($5,000) is not adequate to meet the necessary expense incident thereto. These assemblies are of great advantage to professional sanitarians, and still more to amateurs and the general public.

In the matter of collecting Vital and Sanitary Statistics, we beg to say, as in former reports, that satisfactory results can not be obtained until radical amendments are made to the law. Under existing statutes the Board is without the necessary power to enforce the law in relation thereto. The persons whose duty it is made to collect such statistics, are not appointees of this Board, and the law provides no means for punishment for failure to perform the duties faithfully and efficiently, hence in many counties the work is done in a perfunctory manner, and our statistics are thereby rendered less valuable, and in fact in some instances misleading.

The number of annual reports, authorized by law for this Board (3,000), is inadequate to the demand, and should be largely increased. Not less than 10,000 copies should be printed.

The work of collecting statistics devolves chiefly upon physicians of whom there are in the State 4,163, leaving a number unsupplied with the report. With increased powers under the law the Board could accomplish much more good, and the increased expense would be so small, that the additional outlay would bring results which would much more than offset the additional expense thus incurred.

The following therefore are the "suggestions in regard to legislative action which the Board deem important:"

1. A veterinary surgeon with a provision for the payment by the State for his services.
2. Granting power to destroy animals affected with glanders, or cattle having incurable, contagious or infectious diseases rendering them unfit for use or food.
3. Requiring burial permits in all cases of death, and providing by fees or salary, for the payment of county health officers.
4. Vesting the appointing power and removal of county health officers in the State Board of Health.
5. An increase in the number of Annual Reports.
6. Providing for a contingent or epidemic fund, under the control of the Governor or other authority provided for by legislative enactment to be used in cases of emergency.
7. An appropriation for the removal or abatement of what is known as the "Michigan City Sewer Nuisance."
8. Provision for increasing the capacity of the Institutions for the Deaf and Dumb and the Blind.
9. Providing for the building of abattoirs and preventing the slaughtering of animals elsewhere, and for inspectors, of cattle to be used for food, before and after killing.

LIBRARY.

The Library embraces a collection of works by recognized authorities on diseases of domestic animals, bacteria, cholera, drainage, ventilation, heating, food, hygiene, preventive medicine, sanitary science, sewers and sewage, small pox, suicide, typhoid fever, water, zymotic diseases and miscellaneous works.

Health officers, physicians or other responsible parties, desiring to pursue the study of sanitary subjects and matters relating to public health; or wish to investigate subjects of interest to this department, or to use them in discussions before societies or conventions interested in the advancement of sanitary science, can obtain the loan of any of these works, by complying with the following terms:

1. Application must be made in writing. Said application must be endorsed by the health officer nearest the party making the application.
2. No more than one book shall be loaned to the same person at the same time.
3. The term for which a book may be loaned shall not exceed three weeks, but at the end of that time a renewal for two weeks more may be granted upon application.
4. When a book is loaned the Secretary shall enter upon record the name of the borrower, the title of the book, date of loan, etc.

The following is a complete catalogue of the books belonging to the library:

AMERICAN HEALTH PRIMERS, TITLES AS FOLLOWS:

Brain Work and Overwork	Wood.
Eyesight and How to Care for It	Harlan.
Hearing and How to Keep It	Keen.
Long Life and How to Reach It	Richardson.
Our Homes	Hartshorn.
Sea Air and Sea Bathing	Packard.
School and Industrial Hygiene	Lincoln.
Summer and Its Diseases	Wilson.
The Mouth and the Teeth	White.
The Skin in Health and Disease	Bulkley.
The Throat and the Voice	Cohen.
Winter and Its Dangers	Osgood.

APPLETON'S HEALTH PRIMERS.

Baths and Bathing.
Exercise and Training.
Personal Appearances.
Premature Death—Its Promotion or Prevention.
The House and Its Surroundings.
The Heart and Its Functions.
The Nervous System.
The Skin and Its Troubles.

ANIMALS AND THEIR DISEASES.

Actinomykosis	Flemming.
Animal Diseases—Their Relation to Public Health	Billings.
Animal Plagues (2 vols.)	Flemming.
Contagious Diseases of Cattle	Flemming.
Contagious Diseases of Domestic Animals	U. S. Bureau.
Diseases of Live Stock	Tellor.
Human and Animal Variola	Flemming.
Lung Plague among Cattle	Law.
Veterinary Science	Williams.

BACTERIA.

Bacteria	Maguire.
Bacteria and the Germ Theory	Gradle.

DRAINAGE.

Agricultural Drainage.	Denton.
Drainage.	Gerhardt.
Drainage for Health	Wilson.
Farm Drainage	French.
House Drainage and Water Sewer	Bayles.
Land Drainage	Reeves.
Our Homes	Murphy.

FOOD.

Food and Poisons	Blythe.
Health in Diet	English Conference.

HYGIENE.

Bazar Book of Health	Harper.
Bible Hygiene	By a Physician.
Hand Book of Hygiene	Wilson.
Health in Relation to Civic Life	English Conference.
How to Live	Wilson.
Hygiene and Public Health (2 vols.)	Buck.
Health	Corfield.
Maintenance of Health	Fothergill.

PREVENTIVE MEDICINE.

Eyesight, Good and Bad	Carter.
Dangers to Health.	Teale.
Preventive Medicine	Richardson.
Seven sources of Health	Strange.

SANITARY SCIENCE.

American Sanitary Engineering	Philbrick.
Dwelling Houses	Corfield.
Hand Book of Sanitary Science.	Marsh.
Health in the Dwelling	English Conference.
House Sanitation	Denton.
Mechanics of Ventilation	Rafter.
Sanitary Care and Treatment of Children	Anderson and Jacobi.
Sanitary Construction of Dwelling	Corfield.
Sanitary Condition of Houses	Waring.
Sanitary Engineering	Latham.

Sanitary Plumbing	Helyer.
Sanitarian, The	Bell.
Steam Heating	Waldron.
Ventilation and Warming	Drysdale and Hayward.
Ventilation	Leeds.
Ventilation	Billings.
Ventilation of Buildings	Butler.

SEWERS AND SEWAGE.

Disposal of Sewage	Robinson.
Sewers and Drains	Adams.
Sewers and Gases	De Varona.
Sewage Poisoning	Blake.
Sewage and Its Utilization	Corfield.

SEPULTURE.

Sepulture	Wicks.

SUICIDE.

Suicide	Morcelli.
Suicide	O'Dea.

VACCINATION.

Essentials of Vaccination	Hardway.
Vaccination	Edwards.
Vaccination	Seaton.

WATER.

Potable Water	Folkhard.
Examination of Water	Fox.
Water	Parry.
Water Analysis	McDonald.
Water and Water Supply	Corfield.
Water Supply	Nichols.

ZYMOTIC DISEASES.

Bovine Tuberculosis in Man	Creighton.
Cholera	McPherson.
Cholera, Asiatic, History of	Macnamara.
Cholera in Europe, 1884	Consul's Report.
Cholera in the United States, 1873	Woodworth.
Contagious Diseases	Morgan.
Contagiousness of Consumption	Burney, Yeo.

Common Nature of Epidemics	Smith.
Diphtheria	Jacobi.
Diphtheria	Semple.
Enteric Fever	Welch.
Epidemics of the Middle Ages	Hecker.
Erysipelas and Child-Bed Fever	Minor.
History of Epidemics	Bascome.
Hospitalism and Zymotic Diseases	Kennedy.
Inquiry into Physical Causes of Epidemics.	Howe.
Malaria	Edwards.
Relation of Micro Organism	Belfield.
Remote Causes of Epidemics	Parkin.
Scarlatina Statistics	Minor.
Syphilis and Marriage.	Fournier.
The Social Evil	Logan.
Tuberculosis	Sattler.
Typhoid Fever	Budd.
Yellow Fever, Memphis Epidemic	Keating.
Yellow Fever, Louisiana.	
Zymotic Diseases	Wolf.

MISCELLANEOUS.

Alcoholic Inebriety	Parish.
Aristology, or Art of Dining	Walker.
Art of Prolonging Life.	Hufland.
Causes of Color Among Races	Sharp.
Color Blindness	Jeffries.
Diseases of Interior Valley of North America	Drake.
Drugs that Enslave	Kane.
Floating Matter in the Air.	Tyndale.
Hospitals and Infirmaries	Oppert.
Human Faculty and Its Development.	Galton.
Human Body.	Martin.
Inter-Marriage	Walker.
Labor Among Primitive People.	Engelman.
Legal Medicine (2 vols.)	Tidy.
Medical Nursing	Anderson.
Mineral Springs	Walton.
Nurse's Companion	Culingworth.
Philosophy of Marriage	Ryan.
Physical Education	Oswald.
Principals and Practice of Medicine.	Williams.
Sulphate of Quinine.	Manson.
The Black Arts of Medicine	Jackson.
The Causation of Pneumonia.	Baker.
The Jukes	Dugdale.
The School Laws of Indiana	Holcombe.
Vital Statistics	Plunkett.
What Every Mother Ought to Know	Ellis.

REPORTS OF STATE BOARDS OF HEALTH.

Alabama, 1875 to 1885, inclusive.
California, 1870 to 1887, inclusive.
Connecticut, 1878 to 1886, inclusive.
Delaware, 1879 to 1885, inclusive.
Illinois, 1879 to 1886, inclusive.
Iowa, 1881 to 1885, inclusive.
Kansas, 1885 to 1888, inclusive.
Kentucky, 1880 to 1883, inclusive.
Louisiana, 1872 to 1884, inclusive.
Maine, 1885 and 1886.
Maryland, 1886 to 1888, inclusive.
Massachusetts, 1870 to 1886, inclusive.
Michigan, 1872 to 1887, inclusive.
Minnesota, 1874 to 1887, inclusive.
New Hampshire, 1882 to 1888, inclusive.
New Jersey, 1878 to 1888, inclusive.
New York, 1880 to 1888, inclusive.
North Carolina, 1887.
Ohio, 1886.
Pennsylvania, 1886 and 1887.
Rhode Island, 1879 to 1888, inclusive.
South Carolina, 1884 to 1886, inclusive.
Tennessee, 1877 to 1884, inclusive.
West Virginia, 1884 to 1886, inclusive.
Wisconsin, 1876 to 1888, inclusive.

MEDICAL SOCIETY REPORTS.

Alabama, 1870, '75, '80, '85.
Indiana, 1875 to '87.
Maryland, 1881, '82, '85, '86.
Missouri, 1883, 1888.
Nebraska, 1880 to '84 inclusive.
New Hampshire, 1885, '86.
Penn, 1888.

INDIANA REPORTS

Acts of the Regular and Special Sessions.
Auditor of State.
Board of Agriculture.
Secretary of State.
State Geologist.
State Statistician.
Superintendent Public Instruction.
Opinions of Attorney General Hord.
The Annual Reports of Indiana.
The House Journals.

UNITED STATES REPORTS.

Bureau of Animal Industry.
Bureau of Education.
Bureau of Ethnology.
Chief of Engineers, U. S. Army.
Department of Agriculture.
Geological Surveys of the U. S.
Navy Department, Hygienic and Medical.
Marine Hospital Service.
National Board of Health.
National Museum.
Secretary of the treasury on Epidemic Fund, 1884.
Smithsonian Institute.
Surgeon General of the Navy.
Tenth Census of the United States. (Vols 1 to 20 inclusive, also Maps and Compendium.)
The American Public Health Association. (Vols. 1 to 12 inclusive.)
Treasury Cattle Commission, 1882.
United States Medical and Surgical Directory, War Department.

REPORTS MISCELLANEOUS.

Brooklyn, 1887.
Boston.
District of Columbia.
Montreal.
New York. School Hygiene, 1888.
Ontario.
Medical Education and Medical Colleges, U. S. and Canada, 1865 to '86.
Master Plumbers' Association.
Paris Electrical Exhibition, 1881.
Proceedings National Conference State Boards of Health.
Report American Public Health Association on Disinfectants, 1885.
Proceedings of the New Orleans Sanitary Conference, 1884.
Prize Essays, American Public Health Association.
Proceedings Michigan Sanitary Conference.
Public Health Compendiums, Penn.
Quarantine and Operation of Louisiana Board of Health.
Registration Reports, New Hampshire.
Sanitary News, Chicago.
Ships Medical Chest. Hand Book, Marine Hospital Service.
Bible.
City Directory.
Johnson's Encyclopedia.
Medical Dictionary, Dungleson.
Pronouncing Medical Dictionary.
Scrap Book.
State Gazetter.
United States Postal Guide.
Webster's Unabridged Dictionary.

FINANCIAL EXHIBIT.

The following is a statement of the receipts and expenditures for the fiscal year commencing November 1, 1887, and ending October 31, 1888.

All accounts have been submitted to the Board, for its consideration at its regular meetings, and when allowed have been certified to by the President and Secretary, and audited by the Auditor of State, before warrants were drawn for the same.

Out of the annual appropriation of five thousand dollars, to carry on the work of this department, the members have been paid all actual expenses incurred by attending regular and special meetings of the Board, as well as expenses caused in making sanitary inspections of various sections and the different public institutions under the control of the State government. (Reports of inspections made by the members of the Board will be found in another part of this report.) From our fund we pay current expenses of the office, the secretary and clerks' salaries, printing bills, including all publications of the Board, except the annual report.

The Board supplies all of the city, county and town health boards with physicians' blanks for the return of births, deaths, contagious and infectious diseases, county clerk blanks for the returns of marriages, and furnishes county boards of health with blanks to make regular quarterly reports, as well as blanks for special reports of contagious and infectious diseases, preventable disease circulars for general distribution among the people, the rules and regulations of the Board for the government of physicians and health officers, programmes, and all necessary printing for sanitary conventions held in the State; also printed postal cards on which health officers and physicians in the different parts of the State make weekly reports to this Board of the prevalence of all preventable diseases.

The failure of the last General Assembly to pass the General Appropriation Bill, does not cripple this department of the State government as the money to defray its annual expenses was wisely provided for in the act of the Legislature creating it.

We have no balance after meeting all obligations for the year ending October 31, 1888.

FINANCIAL EXHIBIT.

By appropriation		$5,000 00

DISBURSEMENTS.

Expenses of Members.

Samuel R. Seawright	$157 30
S. S. Boots	102 39
John N. Taylor	203 09
W. A. Fritsch	263 15

Salaries.

C. N. Metcalf	1,200 00
D. N. Berg	1,000 00
Florence M. Stewart	600 00

Miscellaneous.

S. W. Burns, janitor	101 00	
Peter Routier, book-case	150 00	
Spiegel & Thoms, lounge	14 00	
G. P. Brown, Sanitary News	7 50	
C. A. Nicoli, wood cuts	6 00	
N. J. Owings, seal	4 30	
W. I. Ripley, livery	5 00	
Sanitarian	4 00	
J. A. Downey, postal guide	1 50	
F. & A. M. Lodge, rent	30 00	
Wyckoff, S. & B., type-writer	125 00	
W. B. Burford, printing and stationery	536 76	
Aquilla Jones, postage	130 00	
D. N. Berg, traveling expenses	9 75	
C. N. Metcalf, traveling, hotel and office expenses	349 26	
Total		5,000 00

THE BOARD.

The members of the Board and terms of office are as follows:

Samuel R. Seawright, M. D., President, Lafayette; term expires February, 1889.

Wm. A. Fritsch, M. D., Evansville; term expires February, 1889.

Samuel S. Boots, M. D., Greenfield; term expires February, 1891.

John N. Taylor, M. D., Crawfordsville; term expires February, 1891.

Chas. N. Metcalf, M. D., Secretary, Indianapolis; term expires November, 1889.

SANITARY AUTHORITIES AND ASSOCIATIONS.

The following is a list of Boards of Health and Sanitary organizations in the United States, together with the names and addresses of their executive officers:

United States Marine Hospital Service: Dr. John B. Hamilton, Surgeon General, Washington, D. C.

American Public Health Association: Dr. Irving A. Watson, Secretary, Concord, New Hampshire.

Sanitary Council of the Mississippi Valley: Dr. John H. Rauch, Secretary, Springfield Illinois.

National Conference of State Boards of Health: C. A. Lindsley, Secretary, New Haven, Connecticut.

SANITARY AUTHORITIES AND ASSOCIATIONS.

STATE.	SECRETARY.	RESIDENCE.
Alabama	Jerome Cochrane	Montgomery.
California	G. G. Tyrell	Sacramento.
Connecticut	C. A. Lindsley	New Haven.
Delaware	E. B. Frazer	Wilmington.
Illinois	John H. Rauch	Springfield.
Indiana	Charles N. Metcalf	Indianapolis.
Iowa	J. K. Kennedy	Des Moines.
Kansas	J. W. Redden	Topeka.
Kentucky	J. N. McCormack	Bowling Green.
Louisiana	L. F. Saloman	New Orleans.
Maine	A. G. Young	Augusta.
Maryland	C. W. Chancellor	Baltimore.
Massachusetts	S. W. Abbott	Boston.
Michigan	Henry B. Baker	Lansing.
Minnesota	C. N. Hewitt	Red Wing.
Mississippi	Wirt Johnson	Jackson.
Missouri	George Homan	St. Louis.
New Hampshire	Irving A. Watson	Concord.
New Jersey	Ezra M. Hunt	Trenton.
New York	Louis Balch	Albany.
North Carolina	Thomas F. Wood	Wilmington.
Ohio	C. O. Probst	Columbus.
Pennsylvania	Benjamin Lee	Philadelphia.
Rhode Island	Charles H. Fisher	Providence.
South Carolina	Henry D. Frazer	Charleston.
Tennessee	J. Berrien Lindsley	Nashville.
Texas	R. Rutherford	Houstan.
Vermont	C. L. Allen	Rutland.
West Virginia	Thomas A. Harris	Parkersburg.
Wisconsin	J. T. Reeve	Appleton.

Thirty States have organized Boards of Health. The history of sanitary legislation of the country shows that no State has ever repealed the law that created one.

Our national representatives in Congress committed a great wrong and utterly failed to perform their duty when they allowed the National Board of Health to go out of existence in 1882 for the want of an adequate appropriation. We repeat what we said in our last annual report, "it is to be hoped that Congress will re-establish the National Board of Health on a sound and substantial basis, give it a liberal appropriation and provide for its management by competent and educated sanitarians, and not make it an object of mirth by placing it in charge of a corporal or captain of the Regular Army.

"We believe that it should be connected with the Interior Department, and not that of the army, as formerly.

"We believe that every Senator and Congressman from interior States, or States that are not directly benefited by the Marine Hospital Service, will fail to perform his duty toward his constituents (and should be held accountable by them) unless he works and votes to place the National Board of Health in active working order under the control and management of educated scientific men."

The administration of inter-state sanitation and the permanent establishing of a system of coöperation between State and local governments, could be accomplished by a National organization, and the spread of epidemic diseases from State to State, and from one locality to another, would then be an easy matter to control as now it is difficult. There is plenty of work and necessity for the existence of the National Board of Health, as well as the United States Marine Hospital Service. During the last year if there had been a National Board of Health whose affairs were directed by intelligent and experienced sanitarians, the inhuman and uncalled for shot-gun quarantine established in Florida during the prevalence of the yellow fever epidemic of this year would never have been heard of. Florida with its shot-gun quarantine, backed up with all the power of the Marine Hospital Bureau, has been unable to stamp out and check the spread of yellow fever. At first the physicians and local health officers—Florida has no State Board of Health, only county boards—suppressed information and denied the fact that they had the disease in their midst, and only admitted its presence when it was useless any longer to deny it. Affairs were badly managed and in a short time other localities commenced quarantining against them. Travel and commerce was impeded, and the pecuniary loss to that State can never be calculated. We are satisfied that if there had been a National Health Organization, with the proper men in control, many lives would have been saved by the prevention of the spread of the disease, and the paralization of business in a great measure avoided.

While we are strongly in favor of the establishing of a National Board of Health, we are in no way opposed to the Marine Service; as we have said before, we believe there is plenty of work and use for both.

The benefits derived from the latter by this State, with its vast system of railroads crossing it in nearly every direction, are indirect, being only that afforded at seaports that are reached by our railroads. Only a small part of our commonwealth borders on navigable waters, (three counties in the north along Lake Michigan and the extreme southern tier of counties along the Ohio River) so that any direct benefit which we might possibly receive from the Marine Service would be small. The counties in our State bordering upon these water courses have thoroughly organized Boards of Health and are well prepared to meet any disease that may approach them by water.

In this connection we take the liberty of publishing the following, written by Benjamin Lee, A. M., M. D., Ph. D., of Philadelphia, Pa., and Secretary of the Pennsylvania State Board of Health.

(Read in Section on State Medicine, at the Thirty-ninth Annual Meeting of the American Medical Association, May 1888.)

SHOULD NOT THE NATIONAL GOVERNMENT DEFEND OUR PORTS AGAINST THE NATIONAL ENEMY, CONTAGIOUS DISEASE?

To ask this question ought to be to answer it. To one who views it from the broad standpoint of a humanitarian nationalism, it would seem that there can be but one response, and that an affirmative one.

The only argument which has been adduced against it is, that the power of enforcing quarantine is a police power, and as such, reserved by the constitution to the several sovereign States. I confess myself unable to find any such reservation. On the contrary, Section 8 of Article 1, of that immortal document, declares that "Congress shall have power to provide" not only "for the common defence" but for the "general welfare of the United States," "to regulate commerce with foreign nations," and "to make all laws whicn shall be necessary and proper for carrying into execution the foregoing powers and all other powers vested by this constitution in the government of the United States or in any department or officer thereof." More than this, the several States are expressly forbidden to "enter into any agreement or compact with a foreign power." Now I am quite willing to grant that the enemies against which a "common defence" is guaranteed, are the armies and navies of foreign nations and not baccilli or cryptogams, although in a more highly advanced state of civilization a liberal interpretation might even include these latter more formidable foes; but I ask:

First. What possible interest is there which more nearly concerns "the general welfare," than the protection of the entire nation from the introduction of pestilence from abroad?

Second. How is it possible to administer relations without to a greater or less extent, often to a very serious extent, interfering with the "commerce with foreign nations," from which the States are expressly forbidden to keep hands off? and, *Third.* In what way can such a reciprocal understanding be arrived at between the government of any State, still less any city, and foreign governments, as the rapidity and immensity of modern inter-communication makes absolutely essential if the transportation of contagion is to be brought under control, when the said State and municipal governments are forbidden in so many words "to enter into any agreement or compact with a foreign power?"

Internal hygiene, the making of all laws which shall promote health, protect life, and prevent the transportation of contagion within the limits of each State, this certainly is a right reserved to each State by exclusion; but when it comes to the question of common defence against a common enemy from without, which more persistently and terribly than any other, threatens the "general welfare," and appeal to the Constitution appears, both by analogy and by literal construction, by the letter as well as by the spirit, to lead to but one conclusion, viz.: That this latter power inheres in the general government.

This question has, however, been practically decided by Congress in placing a fund at the disposal of the President, to be used at his discretion in taking measures to prevent the introduction of contagious diseases in special emergencies, in assigning to a subordinate Bureau of the Treasury Department the duty of establishing quarantine stations at certain points under conditions, and of requiring the consular representatives of the nation to report the progress of contagious diseases in foreign countries to that Bureau.

We may, therefore, consider that objection as finally tabled, and proceed to discuss the question whether the National Government having the *right to assume* control in this matter, is not *in duty bound* to exercise it. In considering this subject I shall not scruple to avail myself of the admirable work already done, contained in the following papers, viz.:

"Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera," an address delivered by Dr. John H. Rauch, Secretary of the Illinois State Board of Health, before the National Conference of State Boards of Health, at St. Louis, in October, 1884.

"Coast Defences against Asiatic Cholera," a paper of the inspection of the Atlantic and Gulf Quarantines between the St. Lawrence and the Rio Grande, by the same author.

"Report of the Committee of the College of Physicians of Philadelphia, appointed to investigate the efficiency of our Quarantine arrangement for the exclusion of cholera and epidemic diseases."

An editorial article from the Medical News, of Philadelphia, November 5, 1887; and an address from a Special Committee of the College of Physicians of Philadelphia, to the Medical Societies of the United States, concerning the dangers to which this country is exposed by the ineffectual methods of quarantine at its ports, and in regard to the necessity of national control of maritime quarantine, and a "Report of the Committee on Epidemic Diseases," of the Senate of the United States. If it should be found on investigation that under the system which leaves the management of quarantine to local authorities, whether State or civic, every quarantine station without exception has been generously supplied with every thing necessary in the way of extensive grounds, so situated as to make isolation easy and complete, of commodious buildings for the reception, detention and observation of suspects, and well arranged and ample hospitals for the treatment of the sick; of establishments and apparatus for the complete and rapid disinfection of both effects and vessels; we might conclude, simply from a sanitarian stand-point, that federal interference was uncalled for.

If, on the other hand, we find that, except possibly in a single instance, not one of these conditions has been discovered to exist, we are forced to the conclusion that neglect of this duty on the part of the government is longer inexcusable; and if, moreover, we find that in the mature opinion of some of the ablest sanitarians and physicians in the country, it is impossible from the very nature of things that these favorable conditions could invariably be presented under the State and local management, such neglect becoming a folly and a crime. In reference to this last point, Dr. Rauch says:

"With two or three exceptions, no port in the United States has adequate facilities for the proper administration of quarantine. Such a system as was inaugurated by the National Board of Health, and which is the only quarantine contemplated in these remarks, involves the removal of an infected or suspected vessel out of the track of commerce; the segregation of her sick from the well; the proper care and shelter of both these classes; the necessary disinfection of infected cargo, and the purification of the vessel; and the release of vessel cargo and persons, so soon as they have been rendered safe and free from the danger of communicating disease.

"This is very different from a mere quarantine of detention. It is the American quarantine of sanitation, a common sense quarantine, which aims to prevent the introduction and extension of contagion, not by merely arresting it at a given point and there leaving sick and well at its mercy until, the susceptible material having become exhausted, no more cases of the given disease occur: but by removing the susceptible at once from its influence, and then destroying it and the conditions necessary for its existence by scientific methods of disinfection and purification."

"To do this however, requires a quarantine plant and facilities far beyond the means of any but the largest ports, supported either by abundant quarantine fees or by adequate appropriations from the State or municipality. But cholera may obtain access at a small port as well as a large one, and hence the necessity for the Refuge Station above indicated." And later in the same address: "Sooner or later the National Government will be compelled not only to assume supervision of exterior quarantines, but to provide for a permanent system of cooperation with State and local governments in the administration of interstate sanitation; in order, on the one hand, to prevent the introduction of exotic epidemic diseases, and, on the other hand, to prevent their spread from State to State along the great international highways of travel and commerce. *This is a National duty.* It is one that the *National Government only* can adequately discharge, and its expense is, equitably, one which should be defrayed *from the National Treasury.*"

The report of Dr. Rauch's tour of inspection is already a classic. It goes without saying, that, while he found much to commend in the devoted painstaking attention of individual officers to quarantine duties, he discovered, with very few exceptions, an almost entire absence of all the essentials of a thoroughly equipped quarantine station. Commenting upon this evil he says:

"During all this time, from the earliest date to the present, the control of quarantine has remained entirely under the jurisdiction of State and local authorities, except during the brief period in which the National Board of Health exercised its limited quarantine powers under the act of 1878, and which expired in 1882.

It is this absence of adequate National health authority and legislation, and the fact that, in such absence the maritime quarantines are controlled and administered by State and local authorities, resulting in diverse, and frequently conflicting, regulations and requirements, and, of necessity, in a tendency to limit precaution to their own individual interests, commercial as well as sanitary, which throw upon interior States the responsibility of fully informing themselves of the strength or weakness of these outposts, in order to know where to anticipate danger and how to make their own preparations to meet it.

"At its last session, Congress appointed a commission to examine and report upon the measures necessary for the defense of our seacoast against a foreign enemy, and a distinguished publicist and statesman, Mr. Tilden, has recently urged this as a paramount duty of the Government. Millions of dollars have already been expended for such defense, and millions more will probably be forthcoming to meet this possible contingency. But the assaults of foreign contagion are not a contingency. They are actual events, and during the past twenty years they have cost the country an aggregate loss of life only less than that of the great war immediately preceding. Every sanitarian and many of our leading statesmen know that this actual and recurring loss is wholly and entirely preventable by the expenditure of a sum which sinks into utter insignificance before the millions which will be appropriated for the protection of our coasts against a possible future danger.

"But thus far neither sanitarian nor statesman has been able to overcome the petty jealousies of individuals, communities, and States themselves, so as to secure the legislation necessary to remedy even the present confusion."

Early last autumn two or more cholera-infected ships lay in New York harbor, while the disease was spreading with considerable rapidity among the passengers who had been disembarked upon Hoffman's Island for observation. Impressed with the gravity of the situation, the College of Physicians, of Philadelphia, one of the most venerable and least aggressive of American medical societies, on the 5th of October, appointed a committee "to consider the present danger of the importation of cholera into this country, and to secure concerted action among the medical societies of the land in urging upon the State and National authorities the adoption of a uniform and efficient system of quarantine for all exposed ports." This committee, consisting of Drs. J. C. Wilson, Chairman; E. O. Shakespeare, late U. S. Cholera Commissioner to Europe; and Dr. R. A. Cleeman, late member of the Philadelphia Board of Health, did its work thoroughly and well, and reported its results fearlessly and impartially. It took up two main questions:

1. What are the requirements of an efficient quarantine against cholera?
2. To what extent do the existing arrangements at the ports of New York, Philadelphia and Baltimore fulfill these requirements?

Their reply to the first of these questions, taken from an editorial in the Medcal News, of October 15, sums up these requirements so completely and concisely that I make no apology for reproducing it in full:

"Measures of prevention, to give the greatest possible guarantee of success in extinguishing an incipient epidemic of cholera, should in the first place, be based upon the most exact knowledge we possess of the cause, mode of attack, and manner of spread of the disease; and, in the second place, these measures should be intelligently, thoroughly and rigidly enforced.

"What are the considerations involved in the first category? Probably nine-tenths of intelligent and experienced physicians all over the world, even including those of India, have for years admitted that there is most convincing proof that the active cause of the disease is a specific, material, living entity, of extremely minute size, endowed with the power of self-propagation, and of exceeding rapid multiplication in enormous numbers; that among animals it naturally attacks man alone, assailing him only by way of the intestinal canal; that the evacuations from the bowels contain the active cause of the disease, and when this agent in any manner, as through drinking-water, milk, food, the handling or washing of contaminated personal effects, etc., reaches the intestines of another susceptible person, the disease may be transmitted from the sick to the healthy; that the active agent exists in the dejecta of the lightest and most imperceptible, no less than in the severest and most deadly forms of the disease, and is known to be transportable from place to place through the movements of man and his personal effects.

"Proceeding from this basis, logical deduction and common experience alike demonstrate the absolute necessity and efficiency of such measures of prevention as the following:

"(*a.*) Speedy recognition and isolation of the sick; their proper treatment; absolute and rapid destruction of the infectious agent of the disease, not only in the dejecta and vomit, but also in clothing, bedding, and in or upon whatever else it finds a resting place.

"(*b.*) The convalescents should remain isolated from the healthy so long as their stools possibly contain any of the infecting agent; before mingling again with the well they should be immersed in a disinfecting bath, and afterward be clothed from the skin outward with perfectly clean vestments, which can not possibly contain any of the infectious material.

"(*c.*) The dead should be well-wrapped in cloth thoroughly saturated in a solution of corrosive sublimate, 1 to 500, and without delay, cortege, or lengthy ceremonial, buried near the place of death in a deep grave, remote as possible from water which may under any circumstance be used for drinking, washing, culinary, or other domestic purposes. (Cremation, of course, is by far the safest way of disposing of cholera cadavers.)

"(*d.*) Those handling the sick or the dead should be careful to disinfect their hands and soiled clothing at once, and especially before touching articles of food, and drinking or culinary vessels.

"(*e.*) In the case of maritime quarantine, the well should be disembarked and placed under observation in quarters spacious enough to avoid crowding, and so well appointed and furnished that none will suffer real hardships.

"(*f.*) Once having reached their station, those under observation should be separated in groups of not more than twelve to twenty-four, and the various groups should under no pretext intermingle; the quarters for each group should afford stationary lavatories and water-closets in perfect working condition, adequate to the needs of the individuals constituting the group, and supplied with proper means of disinfection. There should be a bed raised above the floor, proper coverings and a chair for each member of the group, each person being required to use only his own bed. There should be a common table of sufficient size to seat around it all the members of the group, who should be served their meals from a central kitchen, and with table furniture belonging to the station and cleaned by the common kitchen scullions.

"(*g.*) Drinking-water, free from possible contamination and of the best quality, should be distributed in the quarters of each group, as it is needed, and in such a manner that it is received in drinking-cups only; there should be no water-buckets or other large vessels in which handkerchiefs, small vestments, children's diapers, etc., can be washed by the members of the group.

"(*h.*) Immediately after being separated into groups in their respective quarters, every persons under observation should be obliged to strip and get into a bath (a disinfecting one is preferable), and afterward be clothed with fresh, clean vestments from the skin outward. Every article of clothing previously worn should be taken away and properly disinfected.

"(*i.*) Then all of the personal effects should at once be removed to a separate building, washed, if possible, and thoroughly disinfected, or, if necessary, destroyed. After disinfection they should be temporarily returned to the members of groups when occasion requires a further change of clothing.

"(*k.*) Under no circumstances whatever should washing of clothing by those under observation be permitted. All used clothing should at first be thoroughly disinfected (by boiling, when possible), and then be cleansed, the disinfection and washing being done by a sufficiently trained and absolutely reliable corps of employes supplied with adequate appliances.

"(*l.*) All of those under observation should be mustered in their own quarters and be subjected to a close medical inspection, while on their feet, at least twice every day, in order to discover and isolate as soon as possible new cases which may develop; and of course, the clothing and bedding of these new cases should be treated without delay in the manner already mentioned. In the meantime a watch should be set over the water-closets for the purpose of discovering cases of diarrhœa, and when discovered, such cases should be temporarily separated from the rest; they should receive judicious medical attention at once, and precautions should be taken as if they were undoubted but mild cases of cholera.

"(*m.*) The quarters should be kept thoroughly clean, and every surface upon which infectious material could possibly be deposited, including the floors, should be washed with a strong disinfectant twice daily, and oftener when necessary; evacuations from the bowels should be passed into a strong disinfectant, the hopper of the closet should be then flushed, and finally drenched with a quantity of the same disinfectant.

"(*n.*) For the proper attention of the sick, there should be two or more competent and experienced physicians, assisted by a sufficient corps of intelligent and efficient nurses, with hours of duty so arranged that a physician with a sufficient number of nurses be in constant attendance in the wards of the hospital.

"(*o.*) For the prompt recognition and separation of new cases, their temporary medical attention, the proper treatment of discovered cases of diarrhœa or cholerine, and of other maladies, and the immediate correction of every insanitary practice or condition by constant, vigilant and intelligent supervision, there should be at least two or more competent and experienced physicians, with hours of service so arranged, that a physician is on duty night and day among those under observation; and he should have subject to his orders, at any and every moment, a sufficient and efficient corps of nurses and laborers to carry out properly and promtly his directions.

"(*p.*) In order to prevent the intermingling of the various groups, to enforce obedience and order, and to make it absolutely impossible for the quarantined and their personal effects to have any communication with the exterior, a well organized and sufficiently large police corps should patrol the borders of the stations day and night.

"(*q.*) Any group among whom there has developed no new cases of cholera, or of choleraic diarrhœa, during the preceding eight or ten days, may be regarded as harmless, and allowed to leave quarantine after each one is firmly immersed in a disinfecting bath and re-clothed with clean garments from the skin outward; the garments removed being destroyed, or thoroughly disinfected and cleansed as above indicated.

"As yet, no reference has been made to the crew, ship and cargo. What has been said of the treatment of those under observation, applies to every one of the ship's inhabitants. The observation, isolation, and cleansing of the crew and their effects, could safely be performed aboard ship if necessary. The ship should be thoroughly cleansed and disinfected, particular attention being given to the quarters of the emigrants and crew."

In regard to the second inquiry, it must be observed that it refers to the three most important ports of entry of the Middle States, if not of the country, and to those which are in most immediate and constant communication with the whole grand interior chain of lines of travel and traffic. And while I cannot accept the conclusion that "there is no reason to believe that the conditions of other ports of entry upon our Atlantic and Gulf coasts are in any respect superior" yet it must be admitted that the possible exceptions to this sweeping condemnation are extremely few. Passing over the minutia of the report of these inspections, which should be carefully read by every practical sanitarian, I make a few extracts from the general conclusions arrived at:

"It is evident that the quarantine establishment at Philadelphia and at Baltimore fail in the most essential requisites of the necessary number of properly equipped buildings for the isolation and observation of a large number of immigrants."

This is all the Committee say with regard to these ports. Could condemnation be more utter and complete. Its very brevity is appalling. Its language is very nearly that of a letter addressed by the speaker to the Board of Health of Philadelphia a short time previously, which says: "Permit me, however, at the risk of seeming pertinacity again to call your attention to the entire inadequacy of the provisions made by the State authorities for coping with a similar emergency in our own port." They "are those of a century ago, when the present metropolis of Pennsylvania was but a country town. What might have been the consequences to her teeming population had the ship 'Alesia' ascended the Delaware river to Chester, instead of anchoring off Sandy Hook, it is not pleasant to contemplate." New York, however, had a plant of sufficient dimensions to make its administration worthy of notice in detail. But so insufficient were the precautions and so defective were the provisions there found, that the Committee felt compelled to record their verdict that,

"It would seem that if the importation of immigrants directly from a European port notoriously infected, is not to be temporarily prohibited as a necessity of public safety, or if the treatment of these immigrants after their arrival at the New York quarantine station is not to be immediately and radically improved, our protection against an epidemic at the present time must rest mainly upon the fortunate circumstance of the near approach of a season in which the disease does not usually spread. The continuance of cholera among the passengers of the 'Alesia' so long after their removal to the station of observation, in itself demonstrates the inefficiency of the measures which have been adopted and enforced for its extinguishment there. Although we have not yet heard of the development of the disease anywhere on the main land, nevertheless, in view of the almost uncontrollable tendency of cholera to spread at times, and of the original insufficiency and the present faulty constitution of the police force on Hoffman Island, we feel impelled to believe that the immunity up to the present time has been owing to singular good fortune, rather than good management."

The report concludes nearly as follows: "It is natural, after having made our comments on the defects of the quarantine stations we have described that we should endeavor to point out their causes and probable remedy. There is one cause so prominent that we may dwell on that alone. It is the great expense. Were it not for the question of money there would have been physicians constantly in attendance at the New York Station, and consequently better management and discipline would have been maintained, while at Philadelphia and Baltimore there would have been adequate establishments provided for the isolation and observation of large bodies of immigrants.

Municipalities and States are wont to scrutinize every dollar of their money appropriations, bringing their expenses down to the closest living limit. Quarantine in this country being, as a rule, enforced mainly against yellow fever and small-pox, a mistaken economy has caused no provision to be made for the more perfect establishment absolutely required for protection against cholera.

Philadelphia, Baltimore, and other ports of a more limited commerce, are unable to spend as much on their stations as is New York, with its large revenues from that source, yet an efficient quarantine at any station exposes the whole country to the dangers of the importation of disease. But it is manifestly unfair that a single municipality or State should defray the expense of protecting the whole public.

How, then, can we have equally complete stations all along the coast? We believe that this can be effected by putting quarantine into the hands of the National Government.

Continuing its valuable labors the committee proceeded to draw up "An address to the medical societies of the United States concerning the dangers to which the country is exposed by the ineffectual methods of quarantine at its ports, and in regard to the necessity of National control of maritime quarantine." This address is based upon the combined results of Dr. Rauch's investigations and its own, and it aptly calls attention to the fact that an "inspection made during seasons of comparative quarantine inactivity," must of necessity be inadequate and misleading, and calculated to foster a false sense of security. Under the pressure of the emergency of a present contagion and thousands of suspects, glaring deficiencies instantly manifest themselves which were before unthought of. The general proposition submitted in the address, as a result of the consideration of existing conditions, are as follows:

First. "It is impossible adequately to protect the public health of the country against the importation of epidemic diseases by independent local maritime quarantine establishments."

Second. "A National system of quarantine is necessary."

Third. "A National organization would secure advantages not attainable by independent local quarantine establishments, however complete."

Among the subsidiary statements with which they reinforce these theses, I note the following:

There is always great difficulty in obtaining sufficient appropriations of public money to defray the expenses of the necessary quarantine establishments and their proper maintenance. It is only possible, during periods of threatened invasion, to procure the considerable sums of money necessary for these purposes, whilst in the interim the money expended is greatly inadequate, though large sums are constantly needed. When the invader is at our gates it is often impossible to plan, construct or repair, and properly equip and garrison an efficient line of defenses.

"Rival political and commercial interests are inimical to the perfect protection of the general public by independent and local quarantine.

"It is but natural that municipal organizations should, in looking after their own interests, pay little regard to the welfare of distant communities.

In this connection may be noted the indisposition and failure on the part of local quarantine officers to notify the authorities interested, of the arrival of immigrants from the infected localities. Notwithstanding the frequent paramount interest of inland communities in the efficiency of the establishment and administration of quarantine at the seaboard, the local authorities of the latter frequently evince an unreasonable jealousy of any sort of investigation or suggestion looking to the general welfare.

"The benefits of quarantine inure to the welfare of the whole country: therefore, it is just that money should be as freely expended when necessary at one port as at another, without respect to their relative commercial importance. It is manifestly unfair that the seaboard cities and States should, as at present, be obliged to bear the entire expense of quarantine establishments designed to protect the inhabitants of every region of the vast territory of the United States.

"A National quarantine, properly administered and conducted by trained officials accustomed to deal with contagious and infectious diseases, would tend to prevent panic, to allay undue anxiety and to favor a reasonable sense of security.

"Experience has shown that much needless alarm, as well as preventable danger arises upon the appearance of an unfamiliar epidemic disease at quarantine stations; as when cholera has shown itself at New Orleans or New York, or yellow fever at Philadelphia or Boston. A National quarantine would go far to do away with the necessity for vexatious temporary interstate quarantines, which so seriously disturb inland trade.

A National quarantine system, directed in such a manner as fully to meet the requirements of existing sanitary knowledge, would not adversely disturb any commercial interest. It would on the contrary do away with many embarrassments incident to maladministration of existing local regulations. For example, the healthy passengers of the Italian steamship Alesia were detained at quarantine in New York Harbor for a period of fifty-eight days, while under an efficient system, uninfluenced by needless fears, those of them who were free from disease could have been safely liberated in ten days at least." The committee thus sums up its conclusions:

"Summary. Under the present system of local and independent maritime quarantine, the necessary quarters for the detention of large numbers of immigrants arriving in a suspected vessal, are either entirely wanting, or if at hand, are deficient in equipment or administration or both. It is possible, however, that one port well governed and rich from prosperous commerce, may make up those deficiencies; yet what would avail even to that committee itself, if a neighboring port, only a few hours distant by rail, failed to exclude epidemic diseases? The front door might be doubly barred and bolted, but the enemy would find an easy passage through the defenseless rear. As recent examples thereof may be instanced the danger of an epidemic of yellow fever to which the little town of Biloxi, in Mississippi, exposed in 1886 not only the interior States, but even the City of New Orleans itself, now apparently so well protected by her own system of maritime quarantine; and to which in 1887, the defenseless condition of the small port of Tampa in Florida exposed not only that State but others.

"This want of uniformity in the quarantine defense along our coast must necessarily exist when different authorities supply the money for maintaining the several stations, and the purse of one port is longer than that of its neighbor. Another money difficulty is found when the appropriation for the same station comes, as it may from the coffers of both city and State; possible difference of opinion in the Municipal Council and the State Legislature is likely to endanger the sufficiency or change the direction of the funds to be expended. In any case, the danger to a single port of entry, or even to a single State, is by no means the same as that which threatens the country at large, and communities are not likely to make a larger expenditure than is needed for their own defense. As an illustration of the difference in the conditions of danger which may exist between the port of entry and the interior of the country, may be mentioned the passage of immigrants with infected baggage. The immigrants may come from a healthy port and in a healthy ship, and with the poison securely imprisoned in their baggage, will pass through the port of entry with perfect safety to its inhabitants; the danger will begin in that far interior where the baggage is opened. It is of no interest to that port to have the baggage disinfected, and it is carried on to some uncertain place unhindered to do its fatal work. And here may be pointed out the rather peculiar position in which America finds itself, in attracting to its shores hordes of immigrants from the older countries. There is in municipalities little disposition to spend more even than is called for to satisfy immediate wants; remote necessities are seldom provided for. A quarantine that is not always in use is not always ready for use. It is only when danger is at its gates, and when, perhaps, it is too late for protection, that a city wakes up to its defenseless state. Municipalities are selfish, and knowing that with the trader quarantine is not a favorable institution, and that it is his tendency to sail into port where the quarantine is most lax, they are assailed with a sore temptation to wink at the neglect of proper precautions, if by so doing, they may circumvent a possible commercial rival.

"In the opinion of the committee the difficulties mentioned can be overcome by the adoption of a maritime quarantine under the control of the National Government."

Commenting upon this report, in its issue of Nov. 5, 1887, the Medical News of Philadelphia, pertinently says: "As the testimony of thoroughly competent and independent observers, a committee of one of the most conservative and respected medical bodies in America, it carries with it the weight of conviction, and conclusively proves the urgent necessity of a radical reform in our method of guarding the country against devastating epidemics with which we are, through foreign communications, from time to time threatened.

"Should the germ of cholera finally escape or be permitted to pass beyond quarantine, they may not limit their onslaught to the nearest city, but may spread over the land and ultimately carry sorrow and loss to homes hundreds and even thousands of miles distant from the port where they entered.

"The abuses and the faults of an exclusively local quarantine, such as at present exists, are so natural and intrinsic that we should by this time acknowledge the absolute need of a National protection of the general welfare by a National maintenance and administration of quarantine."

Meantime the entire country appears to be waking up to a sense of the urgent need for immediate and definite action in the direction indicated. The Senate committe "on Epidemic Diseases, in relation to Seaboard Quarantines" has had under consideration during the present session the following bills, resolutions and memorials:

Senate Bill 665: "To establish a quarantine station at the port of San Francisco."

Senate Bill 1,641: "To establish a permanent quarantine station at or near Cape Charles, Virginia."

"Resolutions of the Legislature of the State of Virginia, in nature of a memorial, asking the establishment of a quarantine station at Cape Charles.

"Resolutions of the Board of Trade of Chester, Pa.

"Petition of the Board of Health of Rockford Ill.

"Resolutions of the Board of Health of Charleston, S. C.

"Petition of the Medical Society of San Diego, Cal.

"Resolutions of the American Public Health Association.

"All urging the establishment of National quarantine at the points of danger upon the gulf and sea coast."

The committee expresses its belief "that it is the duty of Congress" to so regulate commerce as to prevent the introduction of contagion from foreign countries into the United States, and has, therefore, reported, with favorable recommendation, an original bill providing for the establishment of seven thoroughly equipped quarantine stations in addition to the one already provided for at the mouth of the Mississippi River, viz.: At the Delaware Breakwater; Cape Charles, Va.; Sapelo Sound; Key West, Florida; San Diego, Cal.; and Port Townsend, Oregon.

"The estimated aggregated cost of construction and equipment of these quarantine stations, including the one at the mouth of the Mississippi river, is $489,500, and the estimated aggregate annual cost of maintaining them is $93,000."

It is not conceivable that when once the National Government has committed itself so far both in policy and in expenditure, it will long delay the extension of this system northward, and the making it uniform throughout the entire coast line. Of course there will be a difference of opinion as to whether the bureau into whose hands would fall the superintendences of these stations, under the existing law, is the appropriate one, and whether the preservation of the public health is not an interest of sufficient magnitude to entitle it to a department of it own. But when such substantial safe-guards are offered us, it would not be the part of wisdon to reject them on merely theoretical grounds. Consider for a moment the unprotected condition of the Delaware river as revealed in the reports referred to; ascending the bay and river a distance of nearly eighty miles before the Pennsylvania or Philadelphia quarantine station is reached, through a populous country, passing numerous villages, and two considerable cities, with no other restrictions than the local regulations of the coasting trade; the Philadelphia quarantine station, situated close to a large and rapidly growing city, whose Board of Trade have already taken the alarm and protested in a memorial to Congress against the dangerous contiguity, and yet both the State of Pennsylvania and the city of Philadelphia are utterly powerless to remove it to better and more distant location, from the simple fact that the boundary of the State is only a few miles down the river, and the entire intervening distance along the river bank is one continuous settlement. The only proper site for a quarantine station is within the limits of the little State of Delaware, and the expenditure necessary to establish and maintain a properly equipped station for the protection of Pennsylvania, New Jersey and the "parts beyond," would drive her into immediate and hopeless insolvency. There are but two solutions of this pressing problem: Either the National Government must promptly establish a well-appointed quarantine down the bay, or the three States of Pennsylvania, New Jersey and Delaware must form a tripartite alliance, and unite in defraying the expense of protecting themselves and the nation against their common foe. It is a question, however, whether this would not be establishing an *imperium in imperio*, which would be more defiant of constitutional restriction than the federal interference for which it would be a substitute.

In conclusion I beg leave to offer the following resolution:

Resolved, That the Section on State Medicine respectfully suggests to the American Medical Association, the importance of formally urging upon the National Congress the duty of at once assuming entire control of maritime quarantine, and of taking immediate measures to make such quarantine effective before the advent of hot weather.

INSPECTION OF THE SOUTHERN PRISON.

For several years it has been the practice of the State Board of Health to have sanitary surveys made of the various institutions under the control of the State Government; therefore, in accordance with this annual custom its members in the capacity of a committee appointed in regular session, visited the city of Jeffersonville, on September 16, and inspected the State penitentiary, located in that city.

As stated in a former report, "The first thing which attracts attention is the general uninviting appearance of the immediate vicinity of the prison. It is built upon a low wet piece of ground. While this is true, it is upon a higher level than the city of Jeffersonville. Nevertheless the surrounding ground is of a low, marshy character, which, from its appearance and condition, is not such as we would select for a healthy location."

Immediately west of the prison wall is a large open common which is low and wet, and from its looks a person readily reaches the conclusion that it is used by the entire community as a general dumping ground for all manner of filth and rubbish.

Upon entering the prison the first thing which claims the attention of those who have visited the place before, is its bright, cheerful appearance, and improved condition when compared with former years. The committee first inspected the cell houses. They and the corridors looked bright and clean, and bore unquestionable evidence of the liberal use of whitewash, calcimine and paint recently applied. The cells are rather small and not very well ventilated, the ventilation being through the grated doors into the corridors which are ventilated by means of windows in the outside walls, and ventilators in the roof, which have been recently placed there. In what is known as the new cell house, the cells are sufficiently large and well ventilated, each cell being ventilated from the bottom by a separate ventilator. No where, in any of the buildings were foul or obnoxious odors perceptible. The bedding was clean, sufficient, and free from vermin. Each prisoner is provided with a night shirt, which upon removing in the morning he is required to hang on a peg so situated that a person passing on the outside can see it through the grated door. Each cell is supplied with a night bucket for the use of the inmates. At intervals along the corridors are placed stoves, surrounded by tall sheet-iron drums, by means of which, when required, the cells above and below are heated. Since the openings between the top of the walls and the roof have been closed, and ventilators have come into use, the incoming of cold air in excessive quantities can be controlled. It is believed that this mode of heating will be quite sufficient to keep every inmate comfortable in the coldest weather. Within the year the management has provided the prison with a well equipped bath house. The tubs are of iron and well painted and supplied with an abundance of hot and cold water. The prisoners are required to bathe at least once a week, and those whose employment is of a dirty character, such that their bodies are likely to accumulate an unusual amount of filth (for instance the foundrymen), bathe two or three times, or often enough to keep their persons in a good, clean, wholesome condition.

The food was inspected and found to be of a good substantial character, and sufficient in quantity, consisting of vegetable soup, light bread, corn bread, potatoes and boiled beef. This fare is varied to suit necessities and sometimes the desires of the prisoners. The fact that many of the men when they left the table carried away with them large pieces of bread and meat, was sufficient evidence that they were in no danger of starving.

The grounds which were formerly bare and devoid of grass are now covered with a nice green sod, dotted with flower beds, where roses and other flowers in their season are to be seen in full bloom, all of which can not help but cheer, and be a source of comfort to those who are compelled to remain there the remainder of their lives. The chapel which formerly bore more of a resemblance to a barn than it did to a place of christian worship, has received the attention of the management. The walls and ceilings have been neatly decorated with bright, cheerful paper, the seats have been newly painted, mattings have been placed in the aisles, the rostrum carpeted and supplied with an organ and chairs. It is as neat a little chapel or lecture room as can be found in any small city in the State. The prison stands upon ground which has no natural drainage, and as stated in the beginning of this report, is low and marshy. Dr. Taylor in his report of the inspection made by the Board last year, said: "One looks in vain for those evidences of the effectual disposal of waste such as characterize modern institutions of a similar nature. Formerly, as has been stated in a previous report, the waste from the various buildings was carried along open gutters, lined with brick, traversing the whole extent of the prison yard, and finally discharging into an open ditch (misnamed a sewer) on the outside.

"Under the present management these are allowed to convey only waste water, while offal, night soil, and the like are carried and emptied into a pit that communicates with the above mentioned ditch. But here the change for the better ceases. This pit, situated at the northern extremity of the prison wall, contains at all times a quantity of filth, that can not, with the present lack of facilites, be flushed away. And so foul is the odor that issues therefrom, that the stoutest stomach will rebel against him who has the temerity to lift the plank that covers it and look in. The blind ditch (dignified by the name of sewer) extends some 2,600 feet northwestwardly from the prison wall, remains permanently closed, its contents undisturbed, some feet below the surface, and will doubtless furnish effluvia enough to the surrounding neighborhood for years to come.

"The present dependence for sewerage then, consists of one open ditch, 605 feet in length, extending along the prison wall to the west. This is simply one long cess-pool, whose surface of liquid filth is rarely disturbed by any current save when it rains."

Such was the condition of the drainage and sewerage of the institution and its surroundings one year ago. The blind ditch, 2,600 feet in length, running northwestwardly, mentioned in the doctor's report, whose foul, fermenting mass of corruption sent forth such a stench that it would upset the stomach of an Hercules, was originally a brick sewer extending from within the walls to a ravine northwest of the prison.

At the walls it was only a few inches under the surface of the ground. In time it was broken in many places and as the breaks were neglected when they occurred, it was not long until they extended and became one continuous break. Within the year all this has been changed. Instead of an open ditch with a festering mass of liquid filth we find a good brick sewer, extending up to and within the walls of the prison. At the head of the sewer in place of a pit or hole in which to dump the sewage of the institution we find an invention of Warden Patton's which consist of two large iron receptacles made in the shape of kettles. In the bottom of each is an aperture about four or five inches square. These receivers are connected with the head of the sewer by means of a cast iron soil pipe which is well trapped. The whole arrangement is supplied with a flushing apparatus which extends entirely around the inside of the upper margin of each receptacle. Plenty of water is furnished for flushing purposes which may be allowed to run continuously if desired. In the morning the offal and night soil is brought in buckets from the cells by the prisoners and dumped into the receiver and is immediately washed into the sewer. The night buckets are washed at the same time and kept out of doors during the day to dry and purify. In this particular part of the ground where a foul stench was always present not an unpleasant odor can be detected. The open ditch 605 feet in length extending along the wall of the prison to the west has been replaced with a good tile drain supplied with plenty of water to keep it well washed.

Under the present circumstances, taking into consideration the location and surroundings of the prison the drainage and sewerage of the institution is as near perfect as possible.

The only way in our judgment in which it could be improved would be to build a sewer direct from the prison to the Ohio River as suggested in our last report. All of the suggestions previously made by this Board for the sanitary improvement of the institution have been faithfully carried out by the management.

An examination of the records of the prison physician shows that the following deaths have occurred within the year, the cause of the same and the months in which they happened are as follows:

In January, pneumonia, one; February, cerebro spinal fever, one; April, ascites, one; May, pneumonia, one; July, congestion, one; August, epilepsy and typhoid fever, two.

There has been no epidemic, and the health of the inmates has been exceptionally good. In our conversation with the prisoners they had no complaints to make against the management and spoke in the kindest terms of Warden Patton.

In the conclusion we commend him for the great improvement he has made in the sanitary arrangement of the prison and for the manner in which he has provided for those under his care.

STATE PRISON NORTH.

In September the Board inspected the State Prison located at Michigan City. Everything within the walls of the Institution was found to be in a first-class sanitary condition. The members had no criticisms to make.

NORTHERN PRISON AND MICHIGAN CITY SEWER NUISANCE.

The citizens of this beautiful little city situated on the shores of Lake Michigan, continue to be annoyed by the presence of what is known as the Fish Lake Creek or Prison Sewer Nuisance.

The waste matter from eight hundred inmates and the sewage of the prison is conveyed to the Creek some seven or eight hundred feet through a well-flushed sixteen-inch sewer; all of this sewage passes through the open creek some four thousand two hundred feet before it enters the main six-foot sewer of the city. (The city sewer is three thousand five hundred feet in length and empties its contents into the harbor.) Along the south side of this ditch, for nearly the whole length, the lots are built upon and occupied for residences. The last five hundred feet before it enters the city underground sewer, it runs on the south side of the roadway. Both sides of this street are built upon and occupied.

"Fish Lake Creek is a sluggish stream with a fall scarcely sufficient to give a perceptible movement to the waste within its banks. In the warm weather months the creek becomes nearly dry, increasing the danger to the public health from evaporation by the concentration of the poison in the fermenting material which lies along its entire course. In the spring and fall its banks are quite well filled with water, but at no time is the foul odor imperceptible at any point."

At the mouth of the prison sewer, whence it empties its mass of corruption into the creek, the stench is beyond endurance and for four thousand two hundred feet along this ditch the air is contaminated for squares on either side with deadly germs and foul odors arising from it. This nuisance can be abated and the people relieved of its presence by the construction along the bed of the creek of a sixteen-inch sewer extending from the discharge point of the prison sewer to the mouth of the city sewer. This sewer was officially created by the combined action of the State Legislature and the Common Council of Michigan City. The Fifty-Fourth General Assembly of the State of Indiana in regular session passed an act entitled "An act for making a contract with the City of Michigan City for constructing a sewer from the Northern Indiana State Prison and emptying into the harbor on the east side of said city." The act was approved, February 27, 1883.

In this act the State of Indiana agreed to pay the cost of the construction of a sewer along and over a described route of certain dimensions and character recited. However, the amount to be paid was not to exceed the sum of thirty-three thousand two hundred and forty dollars. Michigan City was first to accept the terms and provisions of the act by the enactment of a city ordinance in which the city would agree to build such a sewer within a period of twelve months from the passage of the act, and also agree that the State should have free use of the sewer and Fish Lake Creek through Michigan City to the harbor, for the purpose of sewage and drainage from the State prison, and to maintain and keep the sewer and its connections in Fish Lake Creek to the Harbor in good condition afterwards. A copy of this ordinance was to be filed with the Auditor of State. Twenty per cent. of the gross amount appropriated was not to be paid until the work was fully completed and certified to under oath by the Civil Engineer of Michigan City, and said certificate to be filed in the office of Auditor of State. The following is section 2 of an ordinance passed by the Common Council of Michigan City accepting the terms of the act passed by the General Assembly: "*And be it further ordained by the Common Council of the City of Michigan City*, That the true intent and meaning of the act of February 27, 1883, under which this ordinance is passed, and a copy of which is hereto attached, is, and is hereby declared on the part of said city to be as follows, to-wit: That said city is bound thereby, and hereby agrees and obligates itself, as soon and as fast as money sufficient for such purposes may come into its treasury, to build and thereafter maintain at its own charges, all that portion of said sewer in said act provided for extending from the place where the line of said sewer, as designated in said act, is now intersected by the line and track of the Louisville, New Albany & Chicago R. R. Co., near Fourth Street, in this city, to the point where the State prison sewer on the land of the State Prison North now intersect Fish Lake Creek; said section of said sewer to be built along the line of said creek, as near as practicable, and to be of sufficient depth and capacity, fall and flowage to carry away and discharge the sewage therein deposited from said prison, and in the meantime until the completion by said city of said portion of said sewer as above described, the said city hereby agrees, and is and shall be hereby bound under the interpretation of the true intent and meaning of said act, now herein made and placed by said city thereon, to keep and maintain the portion of said Fish Lake Creek, between the points of intersection above herein named, and used as a sewer, free, clear and clean, and available for such use, and to save and keep the State of Indiana, and all officers of said State and prison harmless from all prosecutions, suits or actions or injunctions, for any nuisance, trespass, damages or claims for compensation of any kind upon account of the use of said portion of said creek as a sewer, or upon account of the future construction of a sewer therein, whether said suits be now pending or are to be hereafter brought herein."

Michigan City, after using as much of the money appropriated by the State as it could draw under the conditions of the act passed by the Legislature in building a sewer extending from one side of the city to the other, stopped work, and since then has made no effort to keep its part of the contract.

After reviewing the agreement entered into between the State and Common Council of Michigan City, no one can reasonably claim that the State is responsible for the maintenance of the nuisance. That the citizens of Michigan City believed the city to be responsible is shown by the action taken by Patrick Burns and others in filing in the office of the Clerk of the Laporte Circuit Court a petition, November 8, 1887, for mandamus against the Mayor and Common Council of Michigan City. After filing section 2 of the ordinance quoted above as a part of the complaint, the following language is used by the parties bringing the suit:

"That relying on the promises and agreements of said city and in said ordinance contained, this relator and the others for whom he also sues, did build and erect and construct lasting and substantial buildings and other improvements upon their lands situated adjacent to said creek, which said buildings and other improvements, owing to the continued failure and neglect of said city to comply with its contract and abate said nuisance, have become almost wholly worthless and of no use and benefit to the relator, he being unable to occupy the same or procure and retain tenants therefor, by reason of the foul and noxious stench arising from said creek. He further shows that said defendant, the City of Michigan City and its Common Council, has wholly and absolutely failed, neglected and refused to construct the said portion of said sewer lying between the points herein last mentioned, or to take any other steps to abate said nuisance. It has been repeatedly petitioned to do so and has had sufficient money in the treasury to be applied. Neither has it provided for the future construction of said sewer by levying a tax for that purpose, or in any other manner, to abate the nuisance complained of."

On the 28th day of November, '87 the defendents filed their demurrer to the complaint, setting forth that the complaint did not state facts sufficient to constitute a cause of action against defendants. On December 7, 1887 the court sustained the demurrer to the complaint. December 8, 1887 the attorneys for complainants excepted to the ruling of the court on the demurrer and prayed for an appeal to the Supreme Court, which was granted. The State Board of Health obtained a transcript of the case with the intention of carrying the case to the Supreme Court, but when the Attorney General came to examine the papers it was found that the attorneys for plaintiffs took their exceptions one day too late and consequently the case could not be taken to the higher court. The State Board of Health made a thorough investigation of the matter and at all times has been anxious to do what it could to relieve the people of this foul disease-breeding creek, which undoubtedly has been the cause of much sickness and many deaths. The books of the secretary of the Laporte County

Board of Health show that for nineteen days in July, 1887, the number of deaths in Michigan City was thirty. Reports received from all other localities in the county including the city of Laporte was only ten. Many persons have found fault with this Board because it did not abate the nuisance, and especially against a city which has a regularly organized health board. It is questionable whether the State Board has the right ever to bring a similar suit against a private citizen, as it is held by good authority that in such matters its functions are only advisory. However, there is no doubt but that it has the right to direct local Boards to bring such action.

Under the law this Board has the undoubted right to place its seal of condemnation upon the sanitary surroundings, and internal arangements of all public institutions, where the same are found to be detrimental to the public health.

The Legislature should either appropriate money to complete the sewer or in some way compel Michigan City to carry out its part of the contract. As long as the sewer from the prison is discharged into the open creek as it now is, the nuisance will continue.

REFORM SCHOOL FOR BOYS.

I made a visit to this Institution on October 11, and make the following report:

The number of inmates at present is 451, ranging in ages from 8 to 20 years. The law provides that a boy under 16 and over 8 years of age who has committed any felony defined in the Statutes and has been indicted and placed on trial, may ask the judge at any stage of the trial to send him to the Reform School. The result is that boys who have committed all grades of crime are sent to this place.

It would occur to one that in view of this fact such a company of boys is very hard to control. While this is perhaps the case, the surface indications do not justify such a conclusion.

The officers seem kind but firm, and there is an apparent confidence between them and the boys which insures ready obedience. Corporal punishment is administered only in rare cases. By a system of rewards of merit the term of service may be materially shortened and boys discharged on "tickets of leave."

The institution has the appearance of a well kept home and not that of a prison.

All are taught the rudiments of an education.

On Sunday they attend Sunday school and Divine service.

I made a careful inspection of the entire premises and found everthing in a good sanitary condition. There were but few cases of sickness and most of these were of a mild character. Dr. Amos Carter of Plainfield is the physician and makes visits as often as required. Within the year ending October 31, 1887, there was not a single death.

They have 225 acres of land belonging to the State, but this is insufficient to keep all employed or raise enough produce of different kinds necessary for the support of all.

The boys make, wash and mend their own clothes, repair their shoes, do the cooking, dish-washing, washing and ironing.

I doubt if there is a similar institution in the country which is better conducted, or one which is accomplishing better results.

Prof. T. J. Charlton is the Superintendent, and is the "right man in the right place."

S. R. SEAWRIGHT, M. D.

THE HOSPITAL FOR THE INSANE AT INDIANAPOLIS.

The Secretary of this Board made a sanitary inspection of the above Institution in September, 1888. He was kindly shown through the different departments by T. S. Galbraith, M. D., the Superintendent, and is glad to say that he found everything in the best possible sanitary condition. In fact, when the character of the inmates is considered, the sanitary condition surpassed expectation. The food was found to be of good quality, and sufficient in quantity. There were at that time about 1,600 inmates in the hospital.

INSTITUTION FOR THE EDUCATION OF THE DEAF AND DUMB.

Each year for the want of sufficient room, a large number of applicants are refused admission into this Institution.

The State should lose no time in making the necessary additions to the buildings, so that the large number of unfortunates who are now deprived of the privilege of obtaining an education, may be accommodated at as early a day as possible. The management from necessity have been obliged to crowd too many beds into the sleeping apartments. This crowding would undoubtedly result in much sickness if it were not for the excellent ventilation of the rooms. The bedding is clean, sufficient and free from vermin. The dormitories are well-heated and free from foul air. The children are well-clothed, the food of a good wholesome character and supplied in liberal quantities.

Each year the plumbing and house drainage is thoroughly overhauled by an experienced plumber, and the whole system made as perfect as possible. The water-closets which are now located in the heart of the building, should be removed and placed in annexes constructed for their use.

The time has arrived when closets in the center of any inhabited building should be forbidden. They are frequently getting out of order, no difference how well they may be built, and therefore are often the cause of serious sickness. Within the year the health of the inmates has been first-class, no deaths being recorded. This indicates that the internal and external sanitary conditions of the buildings and surroundings are good.

The number of pupils in the Institution is three hundred and thirty, ranging in ages from eight to twenty years, and educated in the various branches taught in our public schools. The boys are given an opportunity to learn different trades, such as shoe-making, cabinet-making and printing. The girls are taught to do plain sewing and fancy needle work.

They obtain their water supply from a deep driven well, and it is abundant and pure. The buildings have been supplied with natural gas for heating purposes, which will insure a constant and uniform heat in the coldest weather.

SCHOOL FOR THE FEEBLE-MINDED.

BY S. S. BOOTS, M. D.

In company with Dr. Fritsch we visited the School for the Feeble-Minded which is at present temporarily located near Richmond in a portion of the building erected for the insane. There are in the school 105 children—54 males, and 51 females. These are graded into classes according to their mental condition, the different classes occupying separate rooms. Beginning with the lowest grade we find human beings without a spark of intelligence; some not knowing enough to feed themselves. Others not having sufficient instinct nor can they be taught to give notice when having to attend to the calls of nature, being as helpless in this regard as an infant. In this room we were impressed with the manner of teaching these unfortunates. There were twelve or fourteen children in this room ranging from seven to fourteen years of age. A kind and pleasant young lady was simply teaching them obedience, nothing else. This might at first glance appear as no great task but our observation during the few minutes we were in the room proved the difficulty attached to the undertaking. Seated around a plain table about twelve feet long, the teacher trying to keep them still, this was their lesson. Some were tied to the chairs, others were still and never changed the position in which they were placed.

They were graded from the intermediate to the higher department where you could scarcly discover the lack of intelligence.

We were especially pleased with the uniform kindness and gentle treatment that prevailed in every department. This was particularly noticeable with the Superintendent, Mr. John G. Blake, who had a kind word for each of the inmates with whom he came in contact and from the manner the pupils would flock about him, taking hold of his hand and his kind words and caresses made it seem more like a father than merely the Superintendent of a school.

Everything about the school was in a good condition, clothing and bedding clean, the kitchen in perfect order. Dinnerwas served while we were there, the table containing an abundance of wholesome food which all partook with a hearty relish.

The Superintendent informed us that nine-tenths of this mental weakness of the inmates could be traced directly to heredity. This being true and this Institution having one hundred and five inmates, which number perhaps does not represent one-fifth of the imbecile children in the State, the fact should interest not only Sanitarians but Humanitarians generally, and the law makers to know that it will not only be cheaper, but will save untold suffering and crime to stop the propagation of this class of human beings, enact laws prohibiting marriage of imbecile, vicious and intemperate persons, making the penalty very heavy for any one to issue a marriage license to any person who could not show by satisfactory evidence that they were not debased by these causes. In this way alone would the per cent. of feeble-minded gradually decrease, and their contaminating influence upon future generations be stopped.

But this class of unfortunates we have with us and it becomes the duty of the State to do the best with them it can possibly do, and I am quite sure that the School for the Feeble-Minded is one of the State's proud monuments, and one that in which every citizen can take a just pride. We recommend to the State Board of Health that they make an effort to have every feeble-minded child within its borders sent to this school and that every least talent which they possess might be cultivated, and thus their future life be made brighter for themselves and for others.

INSPECTION OF THE SOLDIERS' AND SAILORS' ORPHANS' HOME AT KNIGHTSTOWN.

BY S. S. BOOTS, M. D.

Pursuant to instructions from the State Board of Health, I made an inspection of the Soldiers' and Sailors' Orphan Home at Knightstown, and report as follows:

The grounds where the different buildings are located have a good natural drainage. On the 21st of July, 1886, the main building was destoyed by fire, a new three story structure was erected on the old foundation, and a well-ventilated schoolhouse and industrial buildings have been added since.

The main building is lighted by electricity and heated by the natural gas. In the second and third stories of the main building are the dormitories; the rooms are crowded with beds and the ventilation not what it should be.

If the plan of the building had been submitted to the State Board of Health, according to section 2 of the law establishing the Board, a protest would have been entered by them against the plans of the building. We found the beds clean and well provided with blankets, there was an apparent neatness and cleanliness in the different departments. I thought it would be better if the floor of the sitting-room were not carpeted; where so many children assemble the floor needs more frequent cleaning than can be given readily where a room is covered with a carpet.

There were three hundred and forty-one orphans at the Home, one hundred and thirty-six girls, and two hundred and five boys, the youngest being three years of age. The most of them were in school, looked well and doing good work under the direction of the Superintendent with a corps of teachers. I would advise the establishment of a Kindergarten Department for the children under six years of age. The older children are a portion of the time employed in the industrial school and upon the farm work. Some of the boys learn to set type, and issue a weekly paper entitled "The Home Journal." The boys are also employed learning the shoe and carpenter trade, and also in the bakery. The girls in the tailor shop and learning general housework.

The general health of the Institution was excellent, with the exception of one little boy, who was sick with pneumonia, which was the sequella of an attack of measles.

The hospital is an old frame building entirely unfitted for its use; a well-ventilated, modern building, entirely isolated from the main building, is one of the crying needs of this school.

The water supply comes from two mineral springs, is plentiful and the water excellent.

We found the plumbing of the building in a good condition.

In conclusion I will say that the Home is well-managed, and is doing a good work.

INDIANA FEMALE PRISON AND REFORMATORY.

This institution owing to the excellent manner in which it is conducted by its able and efficient corps of officers is a credit to the State and is accomplishing much good.

The government is mild but firm, and considering the number and character of the inmates, punishments are quite rare. There are 124 girls in the Reformatory and 57 women in the prison, 11 of the latter are imprisoned for life.

When it is taken into consideration that three fourths of these girls are shut up, not so much because of naturally vicious dispositions as the result of bad home influences and training by parents, they are indeed objects of pity. Many of them are of more than average intelligence, and with proper surroundings and influences would have escaped the disgrace which they can never shake off. They are here carefully instructed in morals and manners and receive the rudiments of a common school education. If when they are discharged they could be so fortunate as to fall into good hands their reformation might be more complete: but frequently they go back whence they came and soon relapse into their former condition.

The sanitary condition of the building is of the highest order, and we commend it to those who wish to find a model in this particular.

An addition to the building which can be used for a hospital is very much needed, and the Legislature should not hesitate to make the necessary appropriation for this improvement. As at present arranged, in case of sickness, isolation from the well ones can not be practiced and serious consequences might result from an outbreak of contagious or infectious disease.

The building should also be provided with fire escapes.

The Board of Trustees remains the same as mentioned in our former report, viz.: Mrs. Thomas A. Hendricks, Mrs. C. N. Walker of Indianapolis, and Mrs. Milton James of Muncie.

Mrs. Sarah F. Keely, Superintendent, Mrs. E. L. Johnston, Assistant Superintendent, and Miss Margaretta S. Elder, Seretary.

PROCEEDINGS OF A CONVENTION OF HEALTH OFFICERS HELD IN THE ROOMS OF THE STATE BOARD OF HEALTH, JUNE 7, 1888.

STATE BOARD OF HEALTH,

ROOM 24, STATE HOUSE.

INDIANAPOLIS, May 21, 1888.

Notice is hereby given that there will be a meeting of Secretaries of county and local Boards of Health, in the rooms of this Board, on

THURSDAY, JUNE 7TH, 1888,

At 10 o'clock, A. M.

The object of this meeting is to discuss such questions as pertain to the duties of health officers, and so far as possible secure uniformity of work.

Will you please forward to the Secretary such question or questions as you may wish to have brought up for discussion, in order that they may be placed upon a program to be issued hereafter? Please to give proper notice to Secretaries of local Boards of Health in your county.

Dr. John H. Rauch, Ill.; Dr. Henry B. Baker, Mich.; Dr. C. O. Probst, Ohio, and Dr. J. N. McCormack, Ky., are expected to be present. Will you come?

SAMUEL R. SEAWRIGHT,
President.

C. N. METCALF, M. D.,
Secretary.

The convention was called to order by Dr. C. N. Metcalf, at 10 o'clock A. M., when upon motion Dr. J. F. Hibberd, of Richmond, was elected President, and D. N. Berg, Secretary.

The following were present:

J. F. Hibberd	Richmond.
R. G. Langsdale	Rising Sun.
L. C. Johnson	Fountain City.
J. F. Thompson	New Castle.
T. Henry Davis	Richmond.
R. O. Crandall	Laporte
J. E. Markle	Winchester.
H. F. Barnes	Indianapolis.
H. C. Laforce	Bedford.
J. H. Wilson	Plymouth.
T. T. Lynn	Bourbon.
A. T. Holtzendorf	Plymouth.
J. W. Rutledge	Cambridge.
W. A. Fritsch	Evansville.
S. R. Seawright	Lafayette.

S. S. Boots	Greenfield.
John N. Taylor	Crawfordsville.
E. H. Cowan	Crawfordsville.
T. H. Lane	Lebanon.
I. W. Trees	Smithland.
J. S. Arwine	Columbus.
C. C. Morris	Rockville.
S. E. Earp	Indianapolis.
T. N. Bryan	Indianapolis.

The following resolutions were then introduced, and after discussion were adopted:

The recent reports of the various Boards of Health show a great increase of premature births, and the coroners' reports furnish an alarming number of unknown infants found in the vaults and the streams.

This is especially true in this city, and I believe in many others.

It is the general belief that the work of the abortionist is alarmingly on the increase, and it seems the duty of the health officers to give this matter especial attention. Be it, therefore,

Resolved, That it is the sense of this meeting that each health officer use his utmost efforts to ferret out these crimes in justice to the people, and if it proves, as is true in some instances, that this work is hampered by the incomplete laws upon the subject, we hold a personal conference with our Representatives to the Legislature from our respective districts, and thus endeavor to have the application of a heroic remedy.

S. E. EARP, M. D.,
Secretary Indianapolis Board of Health.

Resolved, That it is the sense of this conference that the State Board of Health should hold sanitary conventions in various parts of the State for the purpose of interesting the people in sanitary matters.

E. H. COWAN, M. D.,
Secretary Montgomery Co. Board of Health.

Resolved, That it is the sense of this meeting that the State Board of Health would be doing a good work to make a separate report on vital statistics for cities or towns which have a law requiring burial permits.

L. C. JOHNSON, M. D.,
Secretary Fountain Co. Board of Health.

The following are the remarks of members upon the different subjects as furnished by them. These are not all the speeches made, as some of those present failed to reduce their remarks to writing, hence they are omitted.

VITAL STATISTICS.

DR. J. F. HIBBERD.

In opening the discussion of this question, I am free to say we should not continue the present method. It is patent to any one investigating the subject that our vital statistics returns are grossly imperfect; and imperfect statistics are not only not of any value for any useful end, but are misleading, and therefore positively mischievous. Vital statistics such as we are gathering can only be trustworthy when two important factors in their preparation are faithfully carried out; that is, *first*, The number of people in the territory from which they are collected must be truly stated; and, *second*, The statistics must be fully and properly returned. Neither of these requirements are met in the Indiana returns.

While it is probably true that in cities and towns the returns are complete, it is notoriously true that from the rural districts the returns are not complete, in fact are most seriously defective, and as these defective returns are tabulated and published with the returns that are true from municipalities, the whole mass is vitiated, and the total must be rejected as conveying no information that can be made available for any valuable deduction. And in the case of cities where the returns are full, their value is often neutralized by a wrong estimate of the population from which they are derived. I must therefore reiterate my conviction that the vital statistics, as at present gathered in the State of Indiana, are worthless, and the labor and money spent in their preparation—and there is no insignificant amount of each—is wasted, and if it be impossible to devise methods producing more valuable results the whole service should be abandoned. I do not believe it possible in this State at present, or in the immediate future, to procure full and true statistics from the country districts, but from municipalities I am of the opinion it may be done, and I would suggest that if it be within the discretion of the State Board of Health to do so, to drop the collecting of vital statistics outside of municipal incorporations, and make an earnest effort to obtain from their corporations a complete return of their vital statistics and a true statement of their populations severally, and give the results to the world instead of the present useless tables and comments.

JAILS.

Whenever a public building for whatever purpose—or a private one too for that matter—is to be erected, every step in the consideration of the location, the plan, the material and the workmanship should be guided and controlled by the purpose for which the building is intended. Unfortunately another point is too often permitted to be the leading idea in planning the structure, that is, how fine a looking building can be built with the money at command, while the purpose of the structure and the special uses it is to subserve, and its sanitary arrangements, are only secondary considerations. Jails have been no exception to this unfortunate bent in the minds of those charged with the responsibilities of their erection, and many of these prisons in Indiana evidence the vice of this perversion of judgment in having rather showy buildings to outside observers, with very small success in their interior arrangements. I am of the opinion, however, that the people at large and architects in particular, are making rapid progress in the right direction in this behalf, and that of late years, school-houses, churches, halls, court houses, and other buildings, including jails, are showing signs of this progress.

Without touching upon the idea of the jail as a secure prison for those confined in it, which should be wrought out by the party responsible for that department, the sanitarian gives attention to the supply of light, the proper heating, the sufficient ventilation, the adequate supply of potable water, and the appropriate sewering or other means of disposing of the excretions of the inmates.

Each of these points should have scientific attention so as to yield the best results, but it does not follow that precisely the same plan shall in every instance be adopted to carry them out. Indeed the location, surroundings and size of the jail must exercise an important influence in the arrangement to meet every point, but could not warp the principle involved.

The Wayne County jail is a secure and well constructed prison, and its sanitary arrangement are good except in one or two particulars. It is a brick structure with a steel lining. It has a central double row of cells two stories high, cut off from front and lateral corridors by stout vertical iron railing. The light is admitted from small barred windows on the level of the upper row of cells, and is not sufficient on the lower floor. It is warmed by hot air delivered through the floor of the corridor, which, of course, shoots up at once to the ceiling above the second story. The consequence is that in cold weather, when air in temperature and quantity is admitted to make the lower floor comfortable the upper tiers of cells are so hot as to be almost suffocating, and if only enough is allowed to enter to make the upper tiers comfortable, the lower ones suffer from cold. The remedy for this evil sanitary condition would be to extend the floor of the second tier over the entire interior, making two distinct stories of the prison, each of which should be heated and ventilated by itself.

Jails differ from other buildings in the purpose they are to serve, and for this reason have a special construction, but there is no difference in the laws of sanitation as applied to them, the sole difference being in the method of application of these laws.

But it should not be overlooked that the occupants of these prisons are inmates against their will, must remain whether the sanitation is good or bad, and can not go out at pleasure for a sun bath of fresh air or a drink of clean pure water, no matter how gloomy their cells, how stuffy the atmosphere, nor how warm and impure the water. For these reasons county jails should have more care in the sanitary arrangements of their construction than private houses where the inmates are measurably free, and if they do not like the situation can leave it. Not to recognize these facts will be to sin against humanitarian lights and knowledge and violate the plainest injunctions of christian civilization.

DR. J. S. ARWINE.

Mr. President and Gentlemen:

I agree with Dr. Hibberd. Our statistics are worthless because they are incorrect. I know that the reports from my county are incorrect and do not contain all of the deaths that occur in the county, though as a health officer I try to obtain a complete report. I watch the newspapers and keep a memorandum of all the deaths they publish, but I can not always get reports in this way.

Bartholomew County is 21 by 24 miles, and I do not learn of all the deaths, and in some cases it is quite difficult to find out who should report the case—the friends and patrons of physicians will not always expose them to prosecution. The County Commissioners will not pay health officers to travel over their county and collect reports. I believe that health officers should be paid enough to enable them to travel over their county, that they might collect reports and point out sanitary defects and direct their removal in this way. I think that correct statistics may be obtained and general health improved. I do not know but that statistics gathered from towns and cities are misleading, as the causes of disease are more rife than in the rural districts. Mr. President, let me say to my friend, Dr. Linn, that I have tried as hard as he or any one else to obtain full returns. I have brought prosecutions against physicians and from one of them I have not had a report in this year. I have given names and asked the Prosecuting Attorney to hold courts of inquiry in cases where deaths have not been reported, and after all have not been able to obtain reports.

Probably the physicians of his county are more obedient to law, or more pliable than they are in mine.

"Shall the present method of obtaining vital statistics be abandoned?"

Dr. Davis said, that it being admitted by all present that returns of deaths were correct in cities and most towns of the State, there must be a reason, which was that in such instances no burial could take place without first obtaining a permit from the health officer, and the permit was only issued upon the possession of the death report. Now if this were practiced in the country it would insure equally correct returns, and he hoped the State Board would devise some measure looking to the passage of an act regulating burials outside of cities and towns.

Dr. C. N. Metcalf, of the State Board, replied that a bill had already been prepared and would be presented at the next session of the Legislature.

DR. R. O. CRANDALL.

Mr. Chairman:

I believe there are other and more efficient methods of instructing the people in sanitary science than by printed circulars and publications in newspapers, both of which have been quite extensively resorted to in Laporte County. Undoubtedly these have assisted in the work, by mainly influencing the minds and acts of officials. I believe it is true that few people read these circulars and newspaper articles on the subject of sanitation, and fewer still feel interested in the subject, or understand and appreciate the significance and importance of the matters therein set forth. The instructors must be health officers sustained—in their course of instruction—by willing legal officials, to enforce the law. Like an object lesson to children which arrests the attention and indelibly impresses the mind with the importance of the subject presented. So the local boards of health and health officers in the discharge of their duties, place the subject matter before the persons primarily and most vitally affected. My personal experience in Laporte, since 1858, will best illustrate. Thirty years ago the utmost difficulty was encountered in all attempts to improve the sanitary conditions of the city, notwithstanding the immense number of cases of sickness in proportion to the population. There was no health board in sight. Ordinary drainage was apparently unknown. My garden in the central part of the city was twice under water to the depth of two feet, and cellar filled at the same time. One underground sewer only then existed, and that was put in at the public expense by speculators, who by lowering the water in Clear Lake on the northern borders of the city, enhanced the size and value of the lots along the banks.

Sanitation was not in all their thoughts.

An invasion of small-pox in February, 1886, suggested the necessity of some authoritative supervision to secure its limitations.

An ordinance was passed providing for the appointment of a Board of Health, the compensation for the prescribed labors of which consisted in the honor conferred by the appointment.

A proclamation was issued and posted throughout the city, ordering a general cleaning up of streets, alleys and private premises. Small-pox patients were removed to a pest house outside of the corporation, or isolated, and the premises flagged "Small-pox Here." Then a house to house visitation was instituted, at which nuisances were pointed out, effects described, and abatement, manner of and time allowed, prescribed in a written order properly signed and placed in the hands of an officer whose duty it was to enforce the order. At the same time complaints of nuisances coming to the knowledge of any citizen were solicited. Much opposition was encountered, but the law was quietly enforced. Our citizens advanced rapidly toward a practical knowledge of sanitary science and method, and for some years, as to which shall succeed in keeping his or her neighbors' premises in the best sanitary condition. Strenuous opposition to tapping the covered outlet from the lake was made by the authorities, but it was overcome by the overwhelming sentiment in its favor, and now the system of underground tile sewerage and drainage is accomplishing its purpose admirably throughout the city. The improvement in the general health of the city has been remarkable, a fact appreciated by the authorities, as proven by the munificent annual salary of twenty-five dollars, now paid each member of the Board of Health, and to the Health Officer ten dollars additional.

When we consider that the individual householder is the party to be taught sanitary science, I think that this method of teaching by practical demonstration is superior to all others.

We are now comparatively well versed in sanitary science. We can no longer be truthfully designated "the unwashed."

Thorough sanitation has become the popular sentiment and is reflected from the city throughout the county, materially lessening the labor of the Health Officer. If a contagious or infectious disease appears, a dead animal is left unburied, or the purity of the water supply is suspected, the Health Officer is promptly notified and must investigate and abate the nuisance as quickly as possible. We are advancing in the right direction, though not so fast as we desire; still there is reason for encouragement and for the belief that in some degree we are fulfilling the object of our physical and political existence, viz.: The promotion of the best interests of our fellow-citizens.

L. C. JOHNSON, M. D.

Mr. President:

We all concede that a correct report of the vital statistics of our State would be of great value. But where the reports from the cities and the larger towns which are fairly correct, and those from the smaller towns and villages which are less completely reported, and from the country, where not one half of the deaths or contagious diseases are reported and they are classed together, the final statistics are of absolutely no value. And not only so, but so far as they are used their influence is pernicious because their teaching would establish as facts conclusions which are false.

Thus Dr. A., who calls all continued fevers typhoid fever, will report twenty-five cases of typhoid fever and no deaths will be reported.

Dr. B. has, and reports, ten cases of typhoid fever with two deaths; thus the partial and the complete, the true and the false are mingled, and the reported per cent. of mortality is worthless.

Again Dr. C. reports forty cases of diphtheria and no deaths. Dr. D. reports ten cases and five deaths. In the final report the two have fifty cases and five deaths, a mortality of ten per cent., perhaps one-fourth of the true mortality.

Dr. E. reports all cases of scarlet fever; Dr. F. reports none. The report of the frequency of the disease has no value.

If statistics are still to be gathered from the entire State I think it would be much better that they be classified, those from cities and towns having health officers being reported separately from towns, villages and the country where there are no health officers.

As to the best method of educating the public in Sanitary Science, Mr. President, if not the *best* method, one that we have found to be good and practical, is to issue a circular setting forth clearly and concisely the sanitary measures to be complied with, and in this same circular is given plainly the reason and necessity for the measures we ask.

Such a circular should direct that all cellars within the corporation should be thoroughly cleaned, that all decayed vegetable matter must be removed from them, and that they be freely opened to light and air. The reasons for the measures are that in a cellar with damp confined air, vegetables decay rapidly, and then they furnish very favorable conditions for breeding and developing disease germs, and further not only are the persons going into the cellar exposed to the danger of contracting disease, but the deadly germs developed in the cellar readily find entrance to every part of the dwelling.

The surroundings of all wells and cisterns should be carefully attended to, the waste water should be conveyed away in underground tile drains, and should never be allowed to remain upon the surface of the ground near the wells to form pools of black shiny mud; from such pools the water soaks into the wells, carrying with it the disease germs which have found a congenial home for their development in the stinking slime above. A well will drain itself and extract of the filth thrown upon the ground near its mouth for a distance of at least four times its depth, for this reason such germ feeding wastes as slops, dish water, etc., should not be emptied upon the surface near wells, but should be fed to stock or carted out of the corporation.

In all cases where there is not a thorough system of sewerage, the privies should be set above the surface of the ground, and in no case should a cess pool or pit be dug beneath them. Every privy should be plentifully supplied with some absorbant, such as road dust, saw dust, dry ashes or lime, and enough of this used each day to destroy all unpleasant odor, the rear of the privy should be so arranged that the whole of its contents may be easily removed, and it should be completely emptied twice a month. The moisture and filth of neglected privies furnish conditions suitable for the rankest growth of germ life. And when, as is too often the case, the stools of patients having dystentery or typhoid fever, are thrown, without having been disinfected, into the privy vault, we invite the spread of the dread diseases. The extension of these diseases and others, can and should be stopped by our own efforts and cleanliness, and we ought not to contribute to their spread by foul privy vaults, pig-stys, filthy wells and cellars, and then complain of the afflicting hand of Providence.

Our town has circulars of the kind printed with a reason given for each sanitary direction, and our City Marshal is ordered to see that a circular is put in every house in the corporation. Something of this kind is done every year, and it has helped very much in securing proper appreciation of our sanitary measures by the people of our town.

As to sanitary conventions and well-written articles in the general newspapers on sanitation, I think they will greatly help in educating the public in sanitary science, and I endorse heartily what the gentlemen have said concerning these measures.

DR. W. A. FRITSCH.

We can not do well without our vital statistics, but of course they should be reliable and not misleading. The gentleman from Ohio county is certainly right, if all of the health officers would do their duty, our reports of vital statistics would be more complete. Still the law governing the State Board of Health should be amended, so as to make sure of good reports. We had prepared an amendment, it had passed the Senate of our last Legislature, and if that body had been a working Legislature it surely would have become a law. Now we have to wait until the next one gives us the needed legislation. I would favor the proposition of Dr. Hibberd that the reports, from those cities in the State which require burial permits, be tabulated in a separate table as more reliable and valuable to the medical profession.

JAILS.

This question can perhaps best be answered by showing how jails ought not to be constructed and to state in what a wretched condition most of them are at present. Last year I visited the jails in six counties and the most of them were in a bad condition. Many privy vaults are at the side of the building or partly under them, out of which the offensive gases have free access into the jails, and the air therein is consequently pernicious. Where they have water closets the traps are generally faulty, the pipes stopped with excrement, and the odor in the cells was unbearable.

I found the jail in Lawrence County, where Dr. LaForce is the present health officer, especially in a bad condition. The Commissioners of that county wish to rebuild the jail and some of you having good institutions of the kind in your own counties will give Dr. LaForce the desired information, as it is his wish to put that prison in a healthy condition.

The jail most to be commended as a sanitary success was that at Rockport, Spencer County. The building is small and constructed of stone, well ventilated. In the center of it are four cells, connected with water closets which can be well flushed and the sewer was in a good condition.

In educating the public in sanitary science we must not forget our Annual Report. The health officers in the State should contribute to it and make it interesting and valuable; not long winded papers but very short and pithy articles which can be taken up by the press and circulated by them to the people of the State.

I. W. TREES, M. D.

Mr. President and Gentlemen of the Convention:

My object in presenting the question: "What is the best method of educating the public in Sanitary Science?" was for the purpose of getting the subject before this meeting, that some definite plan might be devised by which the general public could be better informed on the subject of sanitary science. If we, as health officers, expect to do a great deal of good, we must have the coöperation of the public. Our present method of informing the public of sanitary laws is imperative and without any reason why they are commanded to observe such laws. Hygiene as taught in our public schools, does not fulfill the demand in this particular. It is a subject of the past as treated there, and for the present needs is not sufficient. After a family is infected with the bacillis of typhoid fever it is then too late to order the premises cleaned and the water supply inspected, at least for those who are already afflicted. When we once get this idea fixed in the minds of the public, we will have accomplished a great deal in preventing disease, and here the question occurs to us again.

There are three methods which I will present to this meeting for consideration, any one or all of which might be adopted:

1. By organizing Sanitary Societies in the various counties of the State for the purpose of holding stated meetings, before which papers on sanitary subjects should be read and discussed. The public should be invited to attend and take part in the deliberations.

2. By the distribution of sanitary circulars to the general public.

3. By the public press in which all papers written by noted sanitarians on sanitary subjects should be published; also articles selected from the Annual Reports of the State Board of Health.

I hope, before the adjournment of the convention that it will adopt some plan by which the public can be better informed on this all important subject.

C. N. METCALF, M. D.

We consider the publication of articles relating to preventive medicine in the public press as one of the best methods of acquainting the masses with the causes of, and the prevention of contagious and infectious diseases.

We have noticed that the newspapers of the State have always cheerfully seconded the efforts of health officers to prevent the spread of disease. Another good way in which the people may be educated in matters pertaining to the public health is by the distribution of preventable disease circulars, in localities where contagious and infectious diseases are prevailing. The people will read such literature when their own household is threatened with sickness.

The distribution of our Annual Report has been suggested as a means of education, but as the law only allows three thousand to be published annually, their circulation among two and a half million people would not accomplish much.

The frequent holding of sanitary conventions, at which sanitary questions are discussed, is a good way to interest the people in public health matters.

STATISTICS.

As provided in sections 7, 10 and 13 of the law approved March 13, 1881, creating the State Board of Health, the Board collects statistics, compiles them into tables and annually publishes the same. The members of the Board are well aware of the fact that these statistics are valueless, being unreliable, misleading and inaccurate, but it is the best that can be done as long as the present law remains in force. The Board prepared a Bill and presented it to the last Legislature requiring that dead bodies should not be buried within the limits of the State without first obtaining a burial permit from the proper authorities. It was passed by the Senate but owing to an unfortunate deadlock it was impossible to get it before the lower branch for consideration. If this Bill had become a law it would have enabled us to collect reliable statistics that would be of great value to the people. As long as the present law remains in force it will be an utter impossibility to collect statistics that can be considered approximately accurate, as physicians living outside of towns and cities requiring burial permits will not report all of the deaths occuring in their practice and many health officers refuse to prosecute them for these violations of the law. When asked why they do not enforce the law they will say they can not afford to make an enemy out of a professional friend and neighbor.

Dr. Hibberd's suggestion, that the statistics from towns and cities requiring burial permits be published in separate tables, is a good one and should be adopted, as it would enable the board to publish statistical tables that would be accurate as far as such places are concerned.

DR. S. E. EARP.

Abortion is on the increase, and unknown infants are frequently found on streets, in alleys and privy vaults. The laws as we now have them upon this subject, rather hinder than help us, and the Legislature should be urged to make them more stringent.

In cities vault cleaners, once in awhile, report cases, but reporting them, say it interferes with their business and causes them trouble and expense. Most of the infants found, which are not full formed, are abortions. They are frequently found in the canal and Pogue's Run. It has been no one's work to look after these matters, hence it has not been done. The woman in the case is accessory to the crime, which makes detection more difficult.

What, then, can be done? Drive these villains from the community. Sometimes respectable (?) physicians engage in this, but it is usually done by men who are not recognized as reputable, the price ranging from three dollars up. I could give names of some of the scoundrels who engage in this business. It is usually done by the class who advertise to "cure cancer without the knife," and who have license to practice medicine procured by perjury and misrepresentation.

The law can be amended so as to make it effectual.

Health officers, if they will make an effort, can get such amendments as will virtually stop this criminal practice.

CAMBRIDGE CITY, INDIANA, June 25, 1888.

DR. C. N. METCALF, *Secretary State Board of Health:*

DEAR DOCTOR—Yours of the 9th inst. received sometime since. In compliance with your request I will say that at the convention I spoke on the question under discussion, "The Sanitary Condition of School Houses, in Reference to the Water Supply and Privies."

It is a question whether there should be any privy vaults allowed on school grounds, unless they are properly cemented.

Where there are wells, either driven or dug in loose gravelly soil, like that in the eastern part of this State, the water is likely to be contaminated with the surface drainage. This was the cause of an immense amount of fevers a few years ago in this city, where the months of July and August were very dry.

The above was the substance of my remarks as near as I can remember them.

Yours respectfully,

J. W. RUTLEDGE, M. D.,
Health Officer, Cambridge City, Ind.

SANITARY CONVENTION.

Pursuant to announcement a Sanitary Convention was held at Lebanon, Indiana, October 2, 1888, in the Baptist Church. It was called to order at 10:30 A. M.

S. R. Seawright, M. D., President of the State Board of Health, was elected Chairman, and T. H. Lane, M. D., Secretary.

The Secretary furnished a synopsis of the proceedings of the body for this report, and read the following article on the sanitary condition of Boone County, during the year, which is his report as Secretary of the County Board of Health:

"There have been 326 marriages reported during the last year. The youngest bride was reported as being sixteen years of age, and the eldest twenty-seven. The youngest groom as seventeen, and the eldest seventy-eight. This statement surely illustrates the impulse of youth and the folly of old age. There should be some restraints thrown around boys and girls who are so anxious to take upon themselves the cares of a family when they are so young. These marriages are invariably confined to the ignorant and illiterate, and in consequence the offspring are generally of feeble constitutions, and when death claims them, they are consoled by the minister that it is the Lord's will that the little ones should be called away and that they must be resigned to this dispensation of Providence, and it is because of this ignorant class who seek the marriage relation, that some legislation should be made, and it should be obligatory that the boy should be at least twenty one years of age, and the girl twenty. Of course healthier progeny would be a result naturally of parents of suitable age, and having more experience to bring to bear in the rearing of children as so much depends upon the intelligence of the mothers.

The Legislature of Indiana has already seen cause to make a law forbidding first cousins to contract marriage, and it seems to me that to forbid them doing so before of suitable age, is of equal importance. I might continue this subject more at length, but time will not permit.

There were reported the past year 914 births. The youngest mother was sixteen, and the eldest father seventy years of age, both paupers. There were reported twenty-four still births, showing a loss of 2.7 per cent. of all children born in the county.

All births were reported as natural, and this report can not be correct, and there must be carelessness in giving these reports, as there must a reason for so large a mortality as shown in the still-birth list, and there was only one reported as premature.

The number of deaths reported from the county during the year was 245, of this number twenty-five died of phthisis, and twenty of pneumonia, the remainder of them had fevers such as typhoid, remittent, congestive, ceribritis, nephria, etc.

I noticed quite a number of now obsolete terms used in the return of deaths, such as *morbilli* for instance.

In one neighborhood where typhoid fever was prevailing within the past year, it grew to be an epidemic almost, as there was not the right effort made to rid themselves of it, and isolation not practiced as it should be.

Professor Cragun, County Superintendent of Schools, made some timely remarks on the heating of school rooms and the water supply of the schools of the county. Trustees are alive to the importance of the improvements as suggested by the State Board of Health during the last three or four years. Prof. C. recommended the having of driven wells connected with the school property as being the only sure plan of securing a pure water supply.

D. N. Berg then addressed the convention on the sanitary improvements which had been suggested by the State Board of Health for the. benefit of the schools, and the great advance that had been made in the construction of the desks and also of the heating arrangements of the school-houses, the arrangement of the blackboards, etc.

He hoped, by legislation, that the law regulating the State Board of Health would be so changed and revised that many changes and greater advance in sanitary science could be made for the benefit of the people of the commonwealth.

Convention adjourned until 1 P. M.

Assembled at 1 P. M. Mayor Pierce then delivered an address of welcome, and in the course of his remarks assured them that the health of the city of Lebanon had been greatly improved by the work of the Board of Health.

Dr. Porter then made an address asserting that sanitary conventions held in the various counties under the supervision of the State Board had been productive of great good in arousing the citizens of the State to the importance of attention to these matters.

The Report of the County Secretary was then discussed at length.

D. A. Hackathorne spoke of the impurity of the water at some of the school houses in Jackson Township, and recommended them to insist on driven wells for all school houses where they had no access to pure city water.

Dr. Jno. N. Taylor, of Crawfordsville, read an exceedingly interesting and scholarly paper, entitled: "An Old Subject in a New Guise."

On motion of Dr. Porter, the State Board of Health was requested to publish Dr. Taylor's paper.

Dr. Porter then read a paper, subject: "The Disposition of the Dead, from a Sanitary Standpoint," which we here insert:

Mr. President and Gentlemen of the Convention:

A year or two since, I had the honor of reading a paper before this body, on the subject of "Water and its Usual Contamination." Subsequently I heard a well written paper read by Dr. Scull, of this city, on "The Proper Disposition of the Dead." The writer treating his subject somewat from a sanitary standpoint.

Although this is rather a cool subject for Doctors, it is one of great significance, particularly when we regard properly the duties of our heaven born profession. One whose devotees are to a great extent the conservators of the public health.

Certainly then, this is a subject upon which the medical profession may speak, without the hazard of being regarded as using bad taste, or of trespassing upon the strict rules of propriety.

Now with the full knowledge of the fact before our mind, that all reforms move slowly, but yet they continue to move onward before the magic wand of scientific research, from the time when the little ragged boy stood in front of the old-fashioned fire-place where he had the mouth of his mother's tea kettle corked and held the lid in place with his father's cane. Here the groundwork of a seeming latent power was laid by Watt, a power that has since developed. One that controls the movement of the mighty engine that today drives the commerce of the world. Again when our own Franklin tamed the lightning and led him down from the cloud cavern like the lion in a leash, and harnessed him to the majestic car of human progress, making a possibility of the telegraph, the telephone and electric light.

But to my subject proper. It must be conceded by all, that no advance has ever been made, no great step has ever been taken in a sanitary direction for the general preservation of the people's health and to give length of years to the average duration of human life, outside of the medical profession. There is no respectable physician in all this broad land who does not sincerely desire the good health of those who surround him. I trust that I may be able to bring the train of thought properly before you and so forcibly illustrate my position as to obtain at least a free discussion. Heretofore these have assumed the widest proportions. Indeed they have embraced a field whose range is as broad as the history of the human race, reaching far into the range of science, literature, morals, politics and religion, with all the vague superstitions and visionary traditions of the past ages. Hence this divergence from a straight line in order to show some of their most glaring arguments. I hope to be able to do this in a spirit of kindness and fairness.

Cremation is advocated as the best, the safest and the most practical theory yet brought out. While it is understood that we are not so wedded to this theory as to reject any other that may offer better results.

I am not unmindful of the difficulties that attend the invasion of old theories and customs. We remember too well the history of that grand struggle of Christianity to establish itself upon the same fields hitherto occupied by Paganism. Those bloody contests are not yet obliterated from history. Their crimson lines are too plainly engraven on the blue arch of heaven to be forgotten.

We remember quite as vividly the creaking doors of the dungeons as they closed behind those grand old men, who were so unfortunate in the race of human progress as to have taken a few steps in advance of the age. In deep humiliation, draped in habiliments of mourning and sadness, do we remember every step taken in the slowly advancing struggle of the natural sciences, especially those of philosophy and astronomy, when persecution with her vengeful howlings and frightful menaces, like sleuth hounds pressed hard upon the track of the offenders, until mother earth, never forgetful of her children, kindly opened her bosom and took them home to rest. You can almost hear the demoniacal yells of the infuriated mob at the heels of Gallileo, clamoring for blood, because he dared to teach the doctrine of Copernicus. But thanks to the author of our being, the scenes have passed away. The whipping-post no longer graces the public squares of our county seats. Civilization no longer tolerates the beheading of criminals. No longer can be seen from New England hills, the curling smoke as it ascends from the fires consuming their witches. Now when freedom of thought and expression are so generally tolerated, and grand principles of liberality have been evolved, still great reforms move slowly, owing perhaps to our inability to estimate accurately the amount of superstition by which we are still hampered. The disposition of our dead, like our funeral sermons, should be made to benefit the living.

Thus when we are about to deposit our dead in their last resting place, we discuss in our own minds these propositions:

First. We desire to place them away respectfully, lovingly.

Second. That the body may rest quietly where we have placed it, without harm or disturbance.

Third. That it may not exercise an influence destructive to life or detrimental to the health of others.

Then we claim, not only from a sanitary view of the subject, but from one of affection and respect, that cremation presents the preference and meets the indications better than any other mode known.

I know that it would be unnecessary to argue for a single moment, before this more than ordinary intelligent audience, that it makes a particle of difference to the dead as to what becomes of this body, the house in which we live. The body would rest just as quietly on the deep sea bottom, in the grave, or in the crucible as anywhere. One gentleman, after descanting upon the barbarism of the process of incineration, ventures to suggest the unhealthy influence imparted to the surrounding atmosphere. It surely had not occurred to his mind that seven-tenths of this mortal frame is water, while only three-tenths is solid matter. While the crucible of a crematory is heated to a temperature that insures so complete a consumption of the gases, and the particles of carbon are so completely consumed that no smoke or offensive vapor can arise from the melting body, every vestige is consumed, and the ashes gathered into a small vase or urn and deposited in a cavity hewn out of the marble pedestal that is to carry your memory adown the stream of time. This is certainly cleanly and respectful as well as void of danger to the living. The grave has its terrors, nor are they confined to the dread of an eternal slumber; but you are placed in the cold, damp and cheerless ground, and left there by a few sorrowing friends to become and remain for years the most hideous and loathsome, grinning and ghastly object of putrefaction and rottenness of which the human mind can conceive. But this is not all. When we remember that cemeteries and graveyards are usually located on high ground, and that the earth is literally scarred in its upper strata with abrasions and fissures, it is easy then to see how your water supply may become contaminated. I remember a few years since a school in this county became a nucleus for the generation of typhoid fever. Several pupils were attacked, and the teacher, within a few days of each other; and then the teacher becoming ill with the same dread disease, it was deemed advisable to close the school, which was accordingly done. Upon investigation it was found that a graveyard upon a high knoll, containing fifty or sixty bodies, in almost every state of decomposition, and this not more than three hundred yards from the well, which was the only water supply of the school. The water, upon analysis, was found to abound in organic matter.

In the city of Toledo, in the summer of 1879, they had an exceptionally large mortuary list, and upon an investigation of the infected portion of the city the fact was disclosed that 133 of the wells were contaminated from an old cemetery.

In the village of Effingham, England, during the summer of 1882 (an exceedingly warm and dry season with them), they had numerous deaths from enteric diseases. Careful examination disclosed the startling fact that of the 365 wells, 269 of them were contaminated from an old cemetery, where interments had been discontinued for three years.

The village of Pen Yan, in the State of New York, with a population of 8,000, some years ago, during one of those heated dry summers, had four hundred interments from typhoid fever and other enteric troubles. Appalling as this may appear, it was discovered that all the water supply was contaminated by a cemetery three-quarters of a mile from the city limits.

Forty years ago in the suburbs of Baltimore, a spring was developed. It was thought to possess great healing qualities. The water was indued with a peculiar odor, the taste was not disagreeable, physicians recommended their patients to drink freely of these mineral waters. A company was organized and ground purchased, parks and walks were laid out, and suitable buildings for the accommodation of patients were in process of construction, but it became necessary before flaunting their bills and advertisements in the face of a generous public, to have a careful analysis of the health giving beverage, so that the world might know something of the elements of the beverage. Consequently the services of an eminent chemist was secured. But to their astonishment the water failed to respond to the test for sodium, calcium, barium, iron, sulphur, magnesium, or anything else that was expected. Further and more persistent search, however, disclosed the fact that the spring had become contaminated from an old cemetery in the vicinity. It is unneccessary to say that its reputation as a watering place ceased, and a well laid scheme collapsed.

Again in the outskirts of our own little city is an old graveyard on the high ground, but with a spongy subsoil, that takes a large amount of water by capillary attraction, so that after a protracted rain water will collect sufficiently to cover the coffin in a new made grave, before the last shovel of dirt is thrown on the same. To the north there is a gentle decline down toward the creek, a distance of perhaps 300 yards. Now on the street running north by the graveyard down to the creek, and on the same side of the street, there has been built within the past four years, four dwellings, and I am safe in saying that there has not been a week within that period that some of the occupants have not been under a physician's care. Now it will be seen that the drift of natural drainage is from the graveyard toward the creek, and the wells which are shallow, would certainly be liable to this class of contamination. It would be a useless consumption of time to argue the richness or virulance of this specie of poisons. The modes of transmissions from one place to another is usually by leaching through the subterranean fissures and abrasions of the earth. Now suppose that you have a cemetery in your immediate vicinity, with a hundred or two bodies in all stages of decomposition, slowly seething and melting away, would you not regard it as exceptional if this nauseous, reeking poisonous mass did not find its way into your water supplies? The water from these contaminated wells is usually without taste or odor, and coming some distance are cool and palatable. Some one has said during this discussion that many persons using these contaminated waters retain their health for years, and we are asked to receive this as an argument against the truth of our statements. Why not ask this question: Why do not all the members of a family or of a community succumb to malarial influences, when it is prevalent in a neighborhood, when all are seemingly exposed alike? We answer: *First.* Some do not drink as much water as others. *Second.* It is not only an acknowledged truth, but a physiological fact that some persons possess greater powers of resistance than others. Hence they pass through an epidemic of typhoid fever, diphtheria, or even small-pox, without contracting the malady. It may be said of a truth that water thus poisoned, tends to lower the vitality, hence those who are enfeebled from faulty nutrition, or from deficient elimination, are most liable to attack. Near Bordeaux, in France, during the months, August and September, 1885, a village of 2,000 inhabitants had one hundred and twenty-nine deaths from typhoid fever alone, and the cause was satisfactorily traced by Pasteur himself to the water supply, which was contaminated by its proximity to the burying ground.

Although it may be difficult to prove to the satisfaction of a mixed audience that contaminated waters serve to lower the vitality, all who have given the matter their careful attention, universally agree that pure water is as essential to the preservation of health as pure air.

These are a few of the dangers connected with the use of contaminated waters, and the connection is so easily established between the sick and the well, via the kitchen, and thus contributing to the origin and spread of our epidemics. It is not questioned by any medical observer, whose ability entitles him to prominence. And now, Mr. President, these illustrations are sufficient for my purpose, if not sufficient to convince the most skeptical.

Now let us shake off some of our superstitions and preconceived opinions—due possibly to faulty educators—and make a decent, affectionate and safe disposal of our dead. The doctrine of incineration is no new fangled notion, gotten up by a few long-haired men and strong minded women, but is as old as the authentic history of nations or tribes. And now in this advanced age, let us divest ourselves as far as possible of our prejudices, and look the matter square in the face. The ancient Jews both buried their dead and entombed them. In the latter case they laid them away in niches, hewn in the solid rock in the mountain side, or in the natural caverns of the earth. Abraham purchased of Ephron the field which was in Machpelah, that he might bury Sarah out of his sight. I do not know that it was regarded in a sanitary light in either case, but probably to hide them from sight in the most respectful manner. The early Egyptians had their peculiar modes of disposing of their dead who fell in battle. As a mark of respect they were usually burned, another class had their remains deposited in tombs, hewn from the solid rock. While according to Heroditus, the wealthy, as well as the royal, were embalmed and placed in a receptacle or a room in the dwelling. And the authorities tell us that they became property by the law, descending from father to son, and that in many instances he could go into the chamber and view his ancestors in a direct line for a thousand years past, and it was regarded base ingratitude, as well as cruel inhumanity, to suffer them to be sold under the most pressing circumstances. Then we come to the ancient Greek, the proudest and in many respects the grandest nationality on the earth, famous for their polite literature, their songs, their eloquence, their science and war. True they had received much of their education, habits and traditions from ancient Egypt, the acknowledged cradle of the arts and sciences. Yet the Greek and the Trojan had great regard for the body after it had done its work, and the immortal spark had passed away. Not only according to Heroditus, but Homer, Virgil and Horace, they buried in the earth their ignoble dead. They burned their felons, and scattered the ashes to the four winds that all memory of him might be lost. A better class with the Jew was sepultured in a sarcophagus or in tombs hewn in the solid rock or mountain side, while those who by their valiant services rendered themselves glorious on the field, and had fallen with their faces to the foe (and this was the highest ambition of the Greek). The body was cleansed, anointed with precious oils and costly perfumes, then burned and the ashes carefully gathered in holy urns and returned to their friends, and even at that remote date, cruel war glutted with blood never so far forgot its obligation to the brave, the noble dead, that it did not stay its ravages for a time that they might pay them all due honor.

To the Honorable Board of Health of the State of Indiana:

I herewith submit my Annual Report:

On December 21st, 1887, I visited Thomas' Station on the I. & C. R. R. in Warren County, Indiana, and in company with Dr. A. V. Moore health officer of Warren County examined a black mare seven years old, belonging to a Mr. Brown, for glanders, found the animal as follows: sub-maxillary glands

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enlarged, discharge of pus from both nostrils, no ulcers on the schneiderian membranes; ordered the animal to be kept in the stable and reported it to be a case of influenza. Mr. Brown was reported to have died of glanders; the physicians differed in their opinions as the man was of a weakly constitution and had pyemic trouble. Dr. Campbell thought it possible that he had blood poison as he was troubled with eczema and any sore upon him or an abrasion of the skin could scarcely be healed.

On February 14th, 1888, I received word from Mr. Thomas, that the horse spoken of had fully recovered.

BRAZIL, Jan. 2, 1888.

DEAR DOCTOR.—I wish to call your attention to a case in which my patient died, on December 31st at midnight, of what I diagnose as glanders. On November 28th I was called upon to visit the patient, James Tutt, Esq., who was laboring under general prostration, headache, constipation of the bowels, loss of appetite followed by febrile symptoms in the afternoons and copious night sweats, temperature 101.

On the 15th of December I was again called (he in the meantime having been able to call at my office to see and consult me) and found him laboring under inflammatory rheumatism of the ankle and knee, both much swelled and the ankle inflamed. Under treatment he improved and was enabled to be up and about the house. On the 24th of December I was called again to visit and found him suffering with a rheumatic affection of both knees and elbows, slight febrile symptoms and severe pains. 25th December about the same. 26th was called in at midnight to find an aggravation of the symptoms of the knees and elbows. 27th and 28th same inflammatory symptoms aggravated and unyielding to all remedies. On the 29th I found both knees and right elbow free from all pain and swelling, while there was a great increase of swelling of the entire left arm and intense redness at the elbow, and swelling of the whole of the left side of the face, which closed the left eye, extended down to under the chin, with sub-maxillary gland on that side enlarged and indurated.

There was no discoloration of the skin of the face nor inflammation of the eyeball. The body was covered with a profuse perspiration and the temperature at 104, his temperature was always highest while drenched in this profuse perspiration.

On the 30th I found distinct marks of blood poison and every indication of a disease of the most malignant character. He had a very disturbed rest during the previous night, pulse small and rapid, delirious mutterings, great thirst, but no complaint of pain, though manifesting great uneasiness upon being moved. No discharge from the nostrils but tough, tenacious discharge from the throat, with a fetid, smell. On my return in the evening of the 30th, I found a copious crop of vesicles and postules of various sizes and stages of growth on the face and chest and other parts of the body, they varied in size from the head of a pin to that of a pea, one class of them resembled minute vesicles with scarcely any inflammatory color surrounding, contained a limped semen, others as large as peas were filled with a yellow pus and resembled small pox postules at maturity. During the entire twenty-four hours the patient was drenched in perspiration. On the morning of the 31st I found the body still drenched, the swelling of the left arm increased in size, while the postules around the joint had broken and run into a solid mass of sores. Upon the side of the head and face the postules had run into a confluent mass covered with a dark brown scab, and the postules had increased in numbers in other parts of the body.

The patient at this period of the disease was in a comatose condition with heavy breathing, which continued until dissolution, which occurred at midnight. I knew that I had a very malignant case of blood poisoning, but from what source I was even unable to surmise, until upon a conversation with his wife on the morning of the 31st. I learned from her that in the Fall he had traded for a horse which had a running discharge from the nose, which he called hay fever and had treated it as such. He had spent much time in doctering up the horse, and had begun to complain of his symptoms during his attention to the animal. His neighbors and those who had seen the horse had pronounced it a case of glanders at the time. In consideration of all these facts, I have written you a hasty review of the symptoms and termination of the sickness of my patient and will leave you to draw your own inference and act as you deem best.

In reading over the diagnosis of glanders in the human subject as given by Ziemssen in his encyclopedia, page 366, vol. 3. I find: "When the local phenomena however once appear, the contaneous exanthema in the form of postules, blebs, abscesses, erysipelatus and phlegnomous processes accompanied by rheumatic pains, nasal affections and other constitutional symptoms, the diagnosis presents no longer any difficulties."

I do not know what your duty is in the case, but merely call your attention to the animal affected, which is now in the possession of the family near town.

Should you wish to make further inquiry or investigation call upon me at my office, corner of Main and Depot streets, Brazil, Ind., and if you deem best to either come or send, I would suggest either Wednesday or Thursday of this week, as the burial, which will take place on Tuesday, will then be over. Any assistance I can give you, will be cheerfully accorded.

Yours truly,
W. B. HAWKINS, M. D.

Upon January 6, I received notice from the Commissioners of Clay County, that Mr. James Tutt had died of glanders. It was reported that his horse had the glanders, and in treating he had caught the dread disease. Upon examination I found that he had a decayed tooth and ulcerated jaw, but no symptoms of glanders. I removed the tooth and the animal recovered. I then thoroughly examined the other horses on the farm, but found no trace of any disease whatever.

I made the following report to the Commissioners:

GENTLEMEN—In regard to my investigation of the case of a diseased animal belonging to the late James Tutt. I found the horse not suffering from glanders, as was currently reported and feared, but from a severe ulceration of the jaw, the result of a long neglected ulcerated tooth. The disease had extended into the roof of the mouth causing bony ulceration, opening up and connecting with the cavity of the nostrils, from which there was a constant discharge of matter resembling that of glanders. This discharge in all probability contained more or less poison, which under favorable circumstances would, by contact with any scratches or sores upon the human body, inoculate and cause blood poison of the system. More particularly would this be the case if the person were suffering from catarrh, which his wife informed me that Mr. Tutt had been afflicted for several years. In riding or in driving behind an animal afflicted as was this one, a person suffering from catarrhal trouble or any feverish condition of the system would be very susceptible to catching disease from the discharges blown from the nostrils of the animal. Diseased bony matter contains more of poison than the same amount of surface of abimal tissue, and in this case the condition was confined to a limited space, but intensified and bearing ample power to develop blood poison, and all of the attendant symptoms manifested in the case of the late Mr. Tutt.

Let me add that Dr. W. B. Hawkins deserves much credit for his promptness in reporting to the State Board of Health, his diagnosis of the case of his patient, his grave fears that his sickness and death had been caused by inoculation or infection from the diseased animal, and for calling for an investigation by proper authority, and thus placing before the public the dangers incurred by any contact with diseased animal matter containing the germs of blood poison.

On February 7, I went to Winchester, Randolph County, in company with Dr. J. E. Markle, County Health Officer.

I visited Spartansburg, and on the farm of E. L. Anderson I found seven head of horses suffering from glanders; I ordered them quarantined. It seems that they contracted the disease from a mustang pony that had been brought there from Illinois and stabled with two old mares, about six or eight months before. In a month after I had been there five of the horses on the farm died.

On February 12, I visited at Woodside, in the southeast part of Indianapolis, and found a mare belonging to Mr. Landers that was brought from the south part of the State, and upon examination found it to be suffering from glanders. Upon consent of the owner I immediately destroyed the mare.

January 23d I received notice from J. F. Thompson, Health Officer, Henry Co., that contagious pleuro-pneumonia had broken out among a herd of cattle on Mr. Wm. Pates' farm near that city. On the 25th I went to the farm in company with Dr. Thompson and Dr. Baltzer, local veterinarian and destroyed two animals said to be affected. Upon holding a post mortem, I found no trace of the disease. Dr. Baltzer not being satisfied about it wrote to the Bureau of Animal Industry, Washington, D. C. The result of their decision will be found in the following communication:

Editor Indianapolis Journal:

Owing to the false report of the presence of contagious pleuro-pneumonia among the cattle in Henry County, the excitement was very great not only in that vicinity but in the adjoining counties. Of course such a disease would result in great damage to owners and breeders if something were not done speedily. Permit me to place in your paper the following report, which was made by me to the Secretary of the Henry County Board of Health.

Portions of the lungs of one of the animals killed on the Pates' farm sent to Prof. Salmon of the Bureau of Animal Industry, Washington, D. C., and he reported to Dr. Metcalf, Secretary of the Indiana State Board of Health, that the specimen sent showed no presence of contagion.

At Frankfort, Clinton Co., Cataract, Owen Co., and at Muncie, Delaware Co., the same alarm had been created.

These localities were all visited by me and in my conclusions and decisions was sustained by Prof. Salmon and also Prof. Rose, of the Bureau of Animal Industry. They were entirely opposed to the theory of contagion.

Shall we simply say that these are unfortunate mistakes and should be overlooked, and if so would it not be pertinent to ask if the cattle interests of this State can afford to have such mistakes so frequently repeated?

Now by whom are they made? In every instance above mentioned "by graduates of the Ontario Veterinary College." Ought not the citizens of Indiana to be relieved in some way from such influences?

E. H. Pritchard.

Letter of E. H. Pritchard to J. F. Thompson, M. D., Secretary Henry County Board of Health:

Dear Sir—In relation to the cattle I saw in your county I beg leave to submit the following report:

The differential diagnosis between sporadic and contagious pleuro-pneumonia in the early portion of the incubative stage, is surrounded with many difficulties, and in isolated cases is probably never fully determined by such evidence as was presented in the examination of the cattle of Mr. Wm. Pates, without the efficient aid of an experienced microscopist in corroboration. The appearance of general milaise, the fever, cough, anorexia, the constipation, the congested condition of the ocular conjuctivia, the inclination to separate from the herd, together with other salient features of the primary attack, are common to both forms of the malady. The pathological anatomy and physiology are similar in both forms and renders a judgment very difficult in an examination of the tissues involved, by the unaided eye.

But in the latter periods of the first stage, when intertitial infiltration, membranous exudation, increasing deposit of the amorphous products of inflammation, composed by lymph, cholesterin, urea and disorganized hematine, are in part or wholly manifest, there would seem to be but little ground for hesitation in arriving at a conclusion. But when the disease has progressed to the second or disorganizing stage, the tissue changes are characteristic.

The local caseono deposits the sclerotic patches, the minute pockets of disorganized blood, the lobular and sometimes lobar hepatization, the friable condition of lung tissue, the peculiar effluvium resembling that arising from sulphurated hydrogen, all demand our closest attention, as while one or more of those conditions might be observed in a case of sporadic, non-contagious pleuro-pneumonia, the grouping of several or all of them in any one subject would be unmistakably pathognomonic.

As no history of the post-mortem appearances in fatal cases could be furnished, it is unnecessary to consider in detail, the pathology of the third stage of this truly formidable malady.

In conclusion I call your attention to the fact that in the two animals we examined there was none of the above detailed features prominently manifested, and much less was there any grouping of two or more of them that would give us a basis for the deduction of a diagnosis indicative of the presence of any contagion in the herd.

E. H. PRITCHARD.

Upon June 29, I received notice from Kokomo, that a cattle epidemic had made its appearance in Howard County. I immediately went there, and in company with Drs. Thompson and Bell and J. F. C. Thorne, County Health Officer, went to the place, examined the cattle, destroyed one, found upon post-mortem that they had been suffering from typhoid or malarial fever, enlarged spleen, inflamed liver and kidneys, together with ulceration of the intestines. I advised the removal of the cattle to better and higher ground, and they soon recovered.

On July 10, Prof. Kilbourne, of the Department of Agriculture, Washington, D. C., was sent to investigate, and confirmed my diagnosis.

August 14, I visited Sardinia Crossing, Decatur County, found a mare belonging to Jacob Shaffer suffering with glanders, I ordered it to be killed, and on the following day it was destroyed and buried.

August 31st. In company with Dr. Lane, Health Officer of Boone County, I visited the farm of Nathaniel Crusher, some three and a half miles northeast of Lebanon, found a mule with the glanders; he was instantly destroyed and burned. He was brought from Monticello, White County.

Upon the same day I visited Monticello, White County, and in company with Dr. F. B. Robinson, City Health Officer, and G. H. Simmons, I visited the farm of G. H. Simmons, Jr. I found two horses suffering from glanders and destroyed them.

On September 6th I was called to the farm of Mr. A. D. Bone, near Fountain, Rush Co., and in company with Dr. W. M. Pierson, City Health Officer, we made an examination of stock said to be suffering from hydrophobia. We found one that had been kept for examination, showing every symptom of rabies. This was the tenth animal that had been killed on this farm.

About five weeks previously there had come to the farm a strange dog and attacked Mr. Bone's dogs; he had killed it. In a few days his stock broke into the cornfield, and his dogs in driving them out, bit the cattle, and the consequences were as stated above.

The horse was also affected and was terrible in his madness, tearing the end of the barn with his teeth; it was with much difficulty that he was finally killed.

These are the first cases of rabies I have seen in this State. While the pathology of this disease is not yet fully established as a scientific principle, its symptoms and functional phenomena are readily recognized by the generality of persons. It is a well known fact that only a very small percentage of those bitten by rabid dogs are affected.

The protection of clothing, the free bleeding, the formation of a scab over the wound no doubt acts as a protection against infection. The period of incubation varies from a few days to many months and even years in man, so that no average or approximate time can be fixed upon. The term hydrophobia, water madness, is frequently misleading; the difficulty of swallowing as a symptom is the result of spasm of the glottis and is not an essential or invariable condition, indeed many cases pass to a fatal termination, without this maifestation. Many being able to swallow fluids to the last, but the spasmodic action commencing at the throat is usually carried throughout the body. No known treatment is found to be of any avail and the best and most humane course in the case of animals is to speedily end their sufferings. Rabies is capable of spontaneous development in dogs, wolves, cats and foxes which can thence transmit it to other quadrupeds and to man, but it is not proven that it can supervene without their having been bitten.

On September I received word from the Hon. Warren G. Sayre of Wabash that a car load of Texas cattle had been purchased by a butcher named Kern, which were infected with disease. I went to Wabash and found on the farm of Charles Wallace that sixteen head of native cattle had died and four were now affected with Texas fever. Upon July 26th Mr. Chas. Kurnon put a herd of Texas cattle on Mr. Wallace's pasture and in August these cattle were slaughtered and put on the market.

Two days after Mr. Wallace turned twenty head of cattle into the pasture; on September 14, some of the cattle showed symptoms of sickness. Within five days sixteen of them had died, the remaining four recovered. There should be a law to prevent the shipping of cattle from the Gulf coast to the north, between the time of the last spring frost until the first one in the fall.

September 29, I was called to Evansville, by a telegram from Dr. C. F. Martin, V. S., stating that a plague had broken out in a herd of cattle near that city, and requesting me to come at once and investigate. I went upon the following day.

Dr. Pollard, of Evansville, City Health Officer, had already quarantined all the cattle at the stock-yards. The quarantine was raised the evening of my arrival. In company with Dr.

C. F. Martin and Dr. Flemming, Veterinarian, of Evansville, we went to the town of Darmstadt, about twelve miles north of the city. On the farm of Wm. Bower we found a herd of cattle—that were bought of Eichel & Weil, stock dealers of Evansville—affected with splenic or Texas fever. They were brought from Kentucky, where they had been exposed to Texas cattle. There were twenty-seven in the herd, eight of which died; the frost coming on prevented further trouble.

Respectfully submitted.

E. H. Pritchard,
State Veterindrian.

Report of Dr. E. H. Pritchard, State Veterinary Surgeon.

The following correspondence will explain itself:

Williamsport, Ind., Dec. 13, 1887.

C. N. Metcalf, M. D., Indianapolis:

Dear Sir—I have just received word that glanders is prevailing among horses at Hedrick, Prairie Township, Warren County, and that Mr. Geo. Smith died on Sunday, the 11th inst., and the attending physician pronounced his disease glanders. I will go out and investigate the matter. If I find the report true, please instruct me how to proceed. Who is competent to say whether it is glanders or not in the horses? I know I am not, as I know nothing about treating horses.

Yours in haste.

A. V. Moore, M. D.,
Health Officer Warren County.

West Lebanon, Ind., Dec. 14, 1887.

Dr. C. N. Metcalf, Indianapolis, Ind.:

Dear Sir—I have just been to Thomas' Station to see about the glanders case. The facts as I got them are these: Geo. W. Brown died at Thomas' Station, Jordan Township, Warren County, December 9. It was stated by the attending physicians to be a case of glanders. He has diseased horses which he had been treating, had symptoms of distemper or gleet. One of the horses died, the other is living and said to be getting better by Dr. Bartlett, the Veterinarian, who has it under treatment. He says the horses have not the glanders, and I am not competent to say myself, but the people of the neighborhood are not satisfied with his decision. Many horses have been exposed, and they are anxious to have a true verdict. The said Geo. W. Brown died with symptoms similar to that of glanders. I have quarantined the horses exposed for the present, until further developments. What shall I do in the case? Had we not better have the State Veterinarian come and decide the case? Respectfully,

A. V. Moore, M. D.,
Health Officer Warren County.

Williamsport, Ind., Dec. 17, 1887.

C. N. Metcalf, Indianapolis:

Dear Sir—The Commissioners of Warren County direct me to have the State Veterinarian to come to Thomas' Station to decide this matter.

A. V. Moore, M. D.,
Health Officer Warren County.

COUNTY HEALTH OFFICERS AND THEIR COMPENSATION.

By virtue of the law creating the State Board of Health, secretaries of county boards of health or the health officers of the counties in which they reside and are annually appointed and their salaries fixed by the board of county commissioners.

They are fully empowered by an act of the Legislature to enforce all statutes, rules and regulations promulgated by the State Board of Health for the protection of the public health, and are required to give this department such information and statistics as it may deem necessary. It is part of their duty to quarterly make reports to this office of all marriages, births, deaths, and contagious and infectious diseases and the cause of sickness occurring in the counties which they are serving; also to demand of the physicians practicing in their respective jurisdictions, that they report all births and deaths happening in their practice, within a period of fifteen days after coming to their notice. They are called upon to strictly enforce the rules adopted by the State Board of Health requiring contagious and infectious diseases to be reported and quarantined as soon as recognized. It should be the ambition of these officers as soon as elected to make themselves familiar with all the sanitary laws of the State, and carefully study and intelligently interpret the rules and regulations issued by the State Board and require a compliance with the same. It too frequently happens that good and efficient officers, who thoroughly understand duties and are not afraid to enforce the laws, and competent in every respect, are removed because their political views are different from those of the appointing power. If civil service should prevail anywhere, it should be in the health service of the State, and especially when it is so difficult to secure good men for the position. It is the duty of these officers to anticipate diseases, by having a thorough knowledge of their causes and compel a removal of the same and by doing this, prevent sickness and death. They should acquaint the people with the nature and best means of prevention of contagious and infectious diseases, and make every possible effort to educate the masses in the latest methods employed to preserve the public health by distributing among them literature treating upon the subject.

It has been ably stated by a writer on sanitary matters in the following language that "an outbreak of an infectious disease extending beyond its first victims unchecked, is an evidence of neglect or ignorance of duty by local boards, inexcusable because a knowledge of methods of prevention or control, and the legal power to enforce regulations to those ends have been abundantly provided." Their duties extend to the home of every citizen, and demand the exercise of intelligence, good judgment and a knowledge of human nature. They are frequently called upon to make "sanitary investigations and inquiries respecting the causes of mortality and the effects of localities, employments, conditions, injesta, habits and circumstances on the health of the people;" examine into the condition of dwellings, tenement houses, and the water supply of towns, cities and public institutions, and to consider methods to be employed for the purpose of enforcing the abatement of nuisances.

This embraces some of the more important duties of a health officer. In order to acceptably fill the office with benefit to the people, they must be energetic, faithful and fearless in the performance of their work, and possess the courage to compel friends as well as enemies to obey the law. The position is one which should not be occupied by a "drone," a timid man or one with mercenary proclivities, who is in search of the money he may make out of the position. We have many health officers in the State who meet all of the requirements of the office, while there is considerable of a minority who pay very little attention to the performance of their duties, and apparently take no interest in sanitary work. It is only when a great emergency arises and the citizens of their respective localities demand that something be done to relieve them of an intolerable nuisance or prevent if possible the spread of an epidemic, that they have aroused from their lethargic state and made a pretense of performing the work devolving upon them.

Such officers are the cause of the opposition and niggardly support which Boards of Health receive in some localities.

Our present law should be amended, so that this class could either be removed, by the State Board or some other central power, or some form of penalty should be imposed when they fail to properly perfom their work. A few give as an excuse for neglecting their duties that they are poorly remunerated for the work required.

All are well aware of the amount they are to receive, but are ignorant of the manifold requirements of the office before assuming its duties. This being a fact, we suggest that they be compelled to faithfully do their work, or else "step down and out" and let some one have the place who will attend to it. There are medical men in the State who have made great sacrifices of both time and labor in serving as secretaries of health boards, without any local encouragement, either in the form of thanks or pay.

They have earnestly performed the duties, nursing the hope that some day the people would be sufficiently educated to appreciate the necessity of local health organizations and liberally compensate some one in a financial way for the services required.

The law specifies how these officials are to be appointed and paid, but it does not stipulate what salary they are to receive, leaving it entirely with the appointing power to fix the compensation. Experience has proven that County Commissioners, Town Trustees and City Councils are usually composed of a class of men who are too frequently influenced by the question of finance alone, and more disposed to consult what they believe to be the desire of their constituents rather than the question of sanitation.

As a result many of the best men in the service have been obliged to abandon the work, and their places have been supplied with indifferent and oftentimes incompetent men.

The law should be amended so that health officers would receive a fixed compensation. It might be difficult to arrive at an equitable equalization of salaries. The salaries and fees of other county, town and city officials are fixed by statute, and why not that of health officers. Perhaps the best plan would be to grade the pay according to the population, trades and business interests of the people of the different communities they are called upon to serve. At present a few of the counties allow the position to be filled by the lowest bidder without any regard whatever to the qualifications of the applicant.

This is a pernicious practice, the inevitable result of which is bad and should be condemned by every reputable man in the profession. We are in favor of an amendment to the law that would prohibit the commissioners from giving the position in that way.

A leading sanitary journal of the country correctly states the case when it says: "There are some commodities that are suitable for the auction block, but brain is not one of them, it is an old theme this competition bug-bear, and it has been written up and written down and written all around. Brain and its intelligent service can not be measured by the foot, the pound or the cord, and inasmuch as it has no unit of measure as to its value except experience, and that a very elastic one, it follows that it can not be composed or bought on the same market as iron pipe, cement or paving blocks."

Each county in the State, except Wabash, has as well an organized Board of Health as it is possible to obtain under the present law. In that county the Commissioners are so parsimonious and "hide bound," they refuse to pay the Secretary of the County Health Board any salary, consequently he does not devote that time to the work, or take that interest in it that he would if he was receiving good hard cash for his services. It requires the expenditure of money to preserve a person's health as well as to regain it when once impaired by disease. The services of the physicians are much more expensive than the salary of the Health Officer.

TOWN AND CITY BOARDS.

There are one hundred and fifty-five organized Town and City Health Boards in the State. Several of these are older than the State Board, having been created by a special act of Town or City Council before it was organized. Many of them have given to their Health Officers special powers for the abatement of nuisances and the prevention of the spread of contagious and infectious diseases. Seventeen towns and cities require burial permits. In the future we will publish their vital statistics separately. By doing this we will be able to give to the people an approximately correct idea of the death rate of the State. (We say approximately because the death rate of cities is always larger than that of the country.)

We shall be able to secure every death occurring in each of these towns and cities, because no dead body can be buried or shipped without first obtaining from the secretary of a local board a permit to do so.

BOARD OF HEALTH, INDIANAPOLIS, August 9th 1888.

To the Indiana State Board of Health:

GENTLEMEN—In response to the inquiry of the Secretary of your honorable Board in reference to the killing of cattle, diseased with what is known as "Big Jaw," at the Indianapolis Stock Yards, I will say:

The Indianapolis Board of Health issued an order January 1, 1887, "That all cattle diseased with what is known as 'Big Jaw' or 'Cancer Jaw' or any other incurable malady should be killed by the Meat Inspector." This action has met the approbation of the people and has been sanctioned by the City Attorney as well as other prominent attorneys of the city. To the best of our knowledge we are operating under the laws, rules and regulations governing the Town, City and State Boards of Health. Some of these conditions of the jaw can be communicated to the human subject directly, while those denominated cancer jaw, make meat unfit for food.

Recently a diseased steer belonging to a man named Murdock was killed by the Meat Inspector and said Murdock has entered suit in the Superior Court against Jno. R. Fohl, the said inspector—with the Health Board as party to the suit—claiming one hundred dollars damage.

These diseased animals as a rule are found at the Indianapolis Stock Yards and consigned to the commission merchants. Previous to the inauguration of the present City Board of Health, during the latter part of December, 1886, I consulted your Secretary, Dr. C. N. Metcalf, and the proposed course met his hearty approval. If a suit of this character should be decided in favor of the plaintiff on a question of jurisdiction on the claim that the City Board of Health did not possess the right to operate outside of the city limits, then our Meat Inspector would not visit the Stock Yards, Abattoir or any of the city slaughter houses, all of which furnish a part of the meat that is consumed in this city and elsewhere.

That the stock mentioned is diseased there can be no possible doubt, and if the owners had sincere motives for the good of the people they would render no opposition.

This question is one of vast importance, and will admit of but one argument, that is, administer an heroic remedy for protection. Respectfully yours,

S. E. Earp, M. D.,
Secretary City Board of Health.

This communication was received by the Board upon the same day it was written. Immediate action was taken in the adoption of a preamble and resolution which are printed in the introduction to this report. We once more wish to repeat the suggestion made in the previous reports, that the diseases of domestic animals should be placed by law in charge of the State Board of Health, with authority to destroy those affected with contagious and infectious diseases. Provisions should be made to pay the owners a reasonable compensation for their loss. Breeders and others interested in the raising of cattle, an enterprise in which so much capital is invested, should use their influence with the Legislature to provide for the appointment of a State Veterinarian to be under the control and direction of the State Board of Health.

A sufficient salary should be fixed to command the services of a competent man.

SANITARY DISTRICTS.

For the better protection of the public health the State has been divided into districts and a member of the Board placed in charge of each.

When the Secretary receives a complaint from any of the districts, he at once refers the matter to the member in charge, who immediately gives it his personal attention.

The following are the various counties comprising the districts and the name of the member in charge:

The Northwest or 1st District:

Hendricks, Boone, Clinton, Carroll, Cass, Fulton, Starke, Laporte, Porter, Pulaski, White, Tippecanoe, Montgomery, Parke, Vermillion, Fountain, Warren, Benton, Newton, Jasper, Lake, Marshall and St. Joseph.

John N. Taylor, M. D., Crawfordsville.

Northeast or 2nd District:

Hamilton, Tipton, Howard, Miami, Kosciusko, Elkhart, Lagrange, Noble, Whitley, Wabash, Huntington, Grant, Madison, Henry, Delaware, Blackford, Wells, Allen, Dekalb, Steuben, Adams, Jay, and Randolph.

Samuel R. Seawright, M. D., Lafayette.

Southwest or 3rd District:

Brown, Lawrence, Orange, Crawford, Perry, Dubois, Martin, Monroe, Morgan, Putnam, Owen, Greene, Davis, Spencer, Warrick, Pike, Knox, Sullivan, Vigo, Clay, Gibson, Posey and Vanderburgh.

Wm. A. Fritsch, M. D., Evansville.

Southeast or 4th District:

Hancock, Shelby, Bartholomew, Jackson, Washington, Floyd, Harrison, Clarke, Scott, Jennings, Decatur, Rush, Fayette, Union, Franklin, Dearborn, Ripley, Ohio, Switzerland, Jefferson, Wayne and Johnson.

Samuel S. Boots, M. D., Greenfield.

Central or 5th District:

Marion County.

Charles N. Metcalf, M. D., Indianapolis.

In accordance with the resolution dividing the State into sanitary districts, it is made the duty of the President at the beginning of each fiscal year to assign a district to each member of the Board. It shall be the duty of the member to whom a district has been assigned, to exercise such a supervision over its sanitation as he may deem advisable.

SANITARY INSPECTIONS.

BY W. A. FRITSCH, M. D.

At a meeting of the Board in April, 1888, the State was divided into Sanitary Districts, and it became my duty to look after the public health of the counties in the southwest part of the State. Upon my return from the meeting spoken of, I sent to the County Health Officers in my District the following postal card:

> Dear Sir—Having been put in charge of the Sanitary District of which your county forms a part, I am desirous of information concerning the sanitary condition of your Poor Asylum, Jail, and also any other County or State Institution that may be within your jurisdiction, also the existence of any nuisances or anything dangerous to the public health.
>
> Please answer at once and oblige,
>
> Yours fraternally,
>
> ——— ———.

To this card I received replies from the following counties:

LAWRENCE COUNTY.

"The sanitary condition of the Poor Asylum is fair. The building is an old-fashioned structure, built regardless of any style of architecture, convenience, and sanitary laws. It is mostly heated by stoves, and the ventilation is bad. There is a grassy and shaded lawn and a bountiful supply of pure water near at hand. The beds are clean but not entirely free from the cimex-domesticus, and the matron informs me that it seems impossible to keep them away. The privy is bad, indeed, but I have taken steps to have it remedied at once. The paupers are separated and classed, about as well as could be, but the men, women and children, among them the insane and idiotic, the colored and white, are all in the one building. However, they are kept apart pretty well. The Superintendent and wife treat them kindly but firmly, and control them quite well. The health of the inmates during the last year has been good, only two dying, one from heart disease and an infant of congenital syphilis. They have an excellent diet of wheat bread, coffee, milk, eggs, pork and beans, hominy, rice and molasses.

"We need a hospital separate from the asylum, and also a separate department for the children."

"The sanitary condition of the jail is quite defective, ventilation very imperfect, and the sewerage system entirely defective. The wall needs attention, and I think there are some ponds in the locality which need inspection."

HOWARD LA FORCE,
Health Officer Lawrence County.

Dr. La Force in his report plainly shows how very important is the necessity of calling the attention of the public to the consideration of abating such nuisances as the Lawrence county jail. In July, 1887, after a personal inspection of the jail, I stated the condition of the building to the members of the State Board. It was condemned, and still we find it in about the same condition at this writing."

CLAY COUNTY.

"I have no complaints to make. The poor house is in good condition, likewise the jail."

T. A. GLASGO,
County Health Officer.

ORANGE COUNTY.

"At present the county institutions are in an excellent condition."

U. H. Hon,
County Health Officer.

POSEY COUNTY.

"All public institutions are in a good sanitary condition, and generally that of the county."

D. C. Ramsey,
County Health Officer.

GIBSON COUNTY.

"I regard the poor asylum and jail as being in a good condition, sanitary and otherwise."

S. H. Shoptaugh,
County Health Officer.

MONROE COUNTY.

"Yours of the 21st is at hand, and in reply will say that the condition of our jail is good. It adjoins my office and I find no cause of complaint. The poor asylum has been rebuilt and refurnished, and is at present in a first-class condition. The State University consists of three new and one old building, all of which are admirably arranged, sanitarily and otherwise."

J. P. Tourner,
County Health Officer.

SPENCER COUNTY.

"Yours of the 21st inst. received; in reply will say that our county jail and asylum are in a good condition, the latter as well as could be expected considering the very poor building. The physician and keeper are doing what they can for the inmates, who seem well and comfortable."

W. S. Bryant,
County Health Officer.

DAVIESS COUNTY.

"Your card at hand asking information concerning the sanitary condition of our poor asylum and jail; the former is all right, but the jail is not in the most desirable state, but I have the assurance that the defects will be remedied. The general health of the county seems good."

W. H. H. Strouse,
County Health Officer.

CRAWFORD COUNTY.

"Your card concerning the condition of poor asylum and jail received. The sanitary conditions are in the usual shape with perhaps a better showing for the poor asylum, which has been removed from a low valley to a high and level elevation. The jail is fair, and they very seldom have a case of sickness. While we have the 'White Caps' in abundance, we do not have many inmates in the jail; just two at the present time. Some local nuisances will receive attention. Notices of the late ruling of the Board have been published in our papers."

H. H. Setser,
County Health Officer.

WARRICK COUNTY.

"I have made a sanitary survey of the Poor Asylum and the Jail, find them in a fair condition, save the sewer which connected with the latter, carries the sewage out and it is emptied in a very thickly populated portion of the town of Boonville. I have gone before the Commissioners and called their attention to it, on two or three occasions they went with me on a tour of inspection of this nuisance, but still they do nothing. They claim that the Town Board should abate it, and the Town Board that the Commissioners should attend to it. This matter has caused me more trouble than all the rest of my work."

H. L. Lamar,
County Health Officer.

I wrote to the doctor that it was the plain duty of the County Commissioners. They with the Secretary, constituting the County Board of Health, should take steps toward abating the nuisance, as I received no answer to this, and I take it for granted that the doctor succeeded in removing it.

VIGO COUNTY.

"In answer to your card I am happy to inform you that the sanitary condition of our Poor Asylum, jail, etc., in this county is extremely good, and in the very best condition. We had a scourge of measles within the year, mild in type, and out of one thousand cases and over, only eight or ten deaths occurred. Due I doubt not to the vigilance of the Health Board and the care of the citizens generally. We carded the houses immediately upon the discovery of a case."

L. J. Weinstein,
County Health Officer.

PUTNAM COUNTY.

"Just returned from the East and find your card. Both the asylum and the jail are in a good sanitary condition. The only glaring nuisance in our county is a public water closet in the court-house yard. We have it disinfected and cleaned at stated times, but still it 'smells to heaven,' more especially during the summer nights."

G. W. Bence,
County Health Officer.

These reports show the sanitary condition of twelve counties, as I have not as yet received any further complaints and the county health officers, judging from their prompt answers are working in the right direction, and I think they have improved sanitary matters in their respective counties. I had visited most of the counties previously, making some suggestions at that time, and these letters gave the assurance to me that my words in reference to certain much needed improvements had not been in vain.

It became now my duty to visit those counties, which did not report according to my request, but upon further thought I concluded to visit those which had not been visited by me, or indeed by any member of the State Board of Health.

SULLIVAN COUNTY.

I visited the above named county on the 12th of July, 1888. I found that some of the physicians of this county fail in reporting to the County Health Officer. There has never been an earnest effort made to enforce the laws regulating the public health in this county. The Health Officer only receives the small sum of fifty dollars per annum for his work, and has little inspiration to enforce the law from the payment of this beggarly pittance. If County Health Officers were required to take the oath of office, and there was a penalty attached for their not strictly following and enforcing the laws of the State Board of Health, very few would accept the office at the salary spoken of.

The Jail, located at Sullivan is unsanitary in many respects and in its present condition is a menace to the health of the occupants whether they be keepers or prisoners. Needed improvements should be made promptly. The ventilation, lighting and sewerage are lacking in their essential features.

The gasses from the sewer have free access to the prison and also into the house of the sheriff, and in consequence of it his wife had been ill with typhoid fever.

The County Poor House, situated near Sullivan, is built on high ground with natural drainage. Water is plentiful and of good quality. The dwelling of the Superintendent is a two story frame structure, 50 by 20 ft. in dimensions, with a wing attached 24 by 35 ft. and in this reside the female inmates, the paper upon the walls hanging in shreds and is full of bedbugs; the rooms certainly might be cleansed and whitewashed. A second building containing eight rooms, size 14 by 12 is for the incurable insane. There were three male white men and one idiotic boy confined there.

Many school houses in the county are sadly out of repair, and some of them have neither wells nor cisterns near the building.

MARTIN COUNTY.

The asylum for this County is a two story frame building, 66 ft. front and 18 ft. deep with a wing on either side of this one serving for kitchen. Part of it was new two years ago. The structure has no cellar, and is not well adapted for its purpose; there is no special department for the children, no bath room, nor hospital; the bed rooms in the older building are small and poorly ventilated.

The location is desirable, on high ground, and a natural drainage. They have water from well and cistern but they are not adequate in a dry season. On the 10th of September, 1888, when I visited the place, there were 17 white male and 22 white female inmates in the house, among them were 10 boys and 5 girls under 12 years of age. Among the inmates were two insane, four idiotic and four epileptics. These were kept in a small house by themselves. The general health of those in the asylum was good. Last year there were three deaths, diarrhœa, typhoid-pneumonia and old age were given as causes of death. John Cooper and his sister sent to the county from the Deaf and Dumb Institute at Indianapolis during vacation, were sent here because the father was a pauper and could not keep them. They should by all means be returned to that school and retained during the session.

One feeble-minded girl should be sent to the Richmond school.

The jail at Shoals, the county seat, is part of the sheriff's house, a good brick structure, 18 by 24 ft. in size. The department for female prisoners is in the second story.

Owing to insufficient and bad plumbing, a foul odor is noticeable in certain parts of the building. The jail proper is kept clean and in good order; the prisoners were healthy.

PIKE COUNNTY.

On the 14th of September I visited the jail and county asylum, and made an inspection. The former, situated on the court house-square, in Petersburgh, and built of brick adjoining the residence of the sheriff. The jail is not in good condition, needs cleaning and whitewashing. The water closet connects with a vault outside of the prison, and the plumbing is bad. The female prisoners are lodged up stairs.

The asylum is located about four miles from St. Petersburgh. There are three one-story frame dwellings, one in which the Superintendent resides, another occupied by the children under the care of a matron; there were eleven boys and four girls, the children are sent to a neighboring school. The privies on the place are built without vaults. During the past year the children have had among them typhoid and remittent fevers, also chills. There is of course a local cause for the fevers among them, and in my opinion the privies without vaults are the just reason for this bad state of health.

A house across the road from these mentioned is occupied by the adult paupers; there should be separate departments for the sexes.

MORGAN COUNTY.

September 27 I visited Martinsville, and in company with the County Health Officer, E. V. Green, inspected the asylum and jail, the latter situated on the court house-square, also adjoins the house of the sheriff, and is built too close to the court house to have the ventilation just what it should be; the cells have a musty smell, not having enough sun and air. The department where the female prisoners are confined was far better in this respect; the closets in both are in bad order owing to defective plumbing.

A new building is much needed. The jail as it now stands is not only a dangerous place to those who are obliged to remain there as prisoners, but to those in an official capacity, in the building and the adjoining court house, also to the citizens of Martinsville. There are several ponds in and around the city which have been condemned by city and county board of health, but the nuisances have not as yet been abated.

BROWN COUNTY

On the 28th of September I visited the asylum and jail of this county. The grounds of the former are well located, with a good natural drainage and plentiful water supply; the building they had just removed to its present position back of the Superintendent's house from across the road, and were about to remodel it.

The jail at Nashville is a log structure, two stories high, and substantially constructed. There was but one prisoner (a woman) sick with typhoid fever, who was receiving medical treatment from Dr. H. J. Ralphy. The building, though a rude one, is apparently in good sanitary condition, and the cause of this sickness was unknown.

VANDERBURGH COUNTY.

The county prison is situated in Evansville, on the Court House square, and is a two-story brick structure. The cells are built in the center of this, leaving an interior court for the prisoners to exercise in, two rows of cells in each story, containing four rooms each. The water closets connected with the cells are in a bad condition, owing to defective plumbing, consequently the cells are filled with sewer gas, and from two to four prisoners in each. Between the male and female prisoners there is no real separation. The females are kept in the upper cells. I consider the jail as unfit for habitation.

The county of Vanderburgh is building a Court House at a cost of $400,000. I advise the County Commissioners to erect a new prison, as the prisoners who become sick in this old structure could sue the county for damages.

The Orphans' Home, situated near the city of Evansville, is built on a high hill, is constructed of brick, two stories in height, containing twelve rooms and two large halls, and bath rooms. The bed rooms are kept very neat and clean, and have plenty of blankets, and bed-clothing generally. The health of the inmates was excellent during the last year, only one death, and that from typhoid fever. They had a few cases of measles, which were promptly suppressed. There are forty-six children in the institution, twenty-eight boys and eighteen girls. Some of the orphans reared in the home are now employed as servants in the building. The children attend the Centennial City School of Evansville. The grounds have a good natural drainage, and, though they have four cisterns, the Matron informed me that in summer they had hardly enough water for the demand. This noble charity is sustained by the county and through the benevolence of private donors, and it speaks well not only for the county, but also for the ladies who give their time and attention to it.

The Colored Orphans' Home is located in the suburbs of the city of Evansville, not a great distance from that occupied by the white children, but the location is not so desirable. Twenty boys and thirteen girls were there at that time. The inmates seemed to be comfortable and healthy, and the establishment was clean.

LITTLE SISTERS OF THE POOR.

This, a Home for aged persons, managed by the Sisters of a Roman Catholic order originally founded in France, is near the city of Evansville on one of its finest roads, and has a fine farm attached. The building is a fine three story, imposing structure of brick. It is heated by steam, and, as is noticeable in all the institutions under that control, the most scrupulous cleanliness is observable in every department. The ventilation of the bedrooms was what it should be, the bedsteads all made of iron, and well suppled with clean bedding of the best quality. The old people as they sat in their rooms seemed contented and happy. The Sisters were all busy with household duties. "There is no time for idleness here," said my amiable conductress when I remarked that the nine Sisters must have a large amount of work. One of them conducted me into the linen room, and said, with a smile: "Doctor, we call this the linen room, after the French 'chambre de linge,' but there is not a piece of linen in it."

The people of Evansville may well be proud of such an institution, and it speaks well for the benevolently inclined in the city who have contributed so freely when called upon by the Sisters in their stated visiting times, and they certainly deserve it when we know that the doors of this Home are open to people of every religious persuasion, and no color line. They are nursed and cared for in their declining years and decently buried.

VANDERBURGH COUNTY ASYLUM.

This institution is situated quite a distance from the city of Evansville, is a substantial brick structure, a main building, with two wings attached, one for the males and the other for the females. There were forty-eight males and forty females. Twelve of the inmates are incurably insane.

The sanitary condition of this institution and its care are not of the best.

Last summer complaint was made to me of several nuisances in the city of Evansville, among them a pond in the upper portion of the city, which was causing much sickness. Various petitions to the City Council had failed to bring relief, therefore they called upon me for advice as to the best plan to adopt in the matter. I wrote to Dr. Jacobsohn, county health officer, to bring the case to the attention of the Mayor and Council, with the statement that if the nuisance was not abated that steps would be taken towards bringing a suit against the city. They immediately took it in hand, and made an attempt to abate it, but sufficient has not yet been done to stop the complaint of the citizens in that locality, and I fear with the advent of summer it may prove still a source of much sickness.

In amending the laws of the State Board of Health it should be made obligatory for every health officer to take an oath of office, and in case he neglected his duty as laid down in the laws of said Board, they should have power to remove him. It is only by the passage and enforcement of such a law that it will be possible for the Board to bring up the Department of Public Health to that high standard to which we aim.

In concluding this report it gives me pleasure to state that the general health of the sanitary district over which I had supervision has been good. The yellow fever did not extend to us. Although Evansville was an open door to the fugitives from Alabama and Florida, and also some from Tennessee took their abode among us, still we escaped the contagion.

In regard to the jails of the district in my charge, it can truthfully be said that not one was in a good condition, sanitarily. They are particularly dangerous to the Sheriff and family in those cases where his residence adjoins. As the prisoners are generally transient, it is not so dangerous as in the case of the keepers, who are fixtures. I think that it is a grave question when we consider that a filthy jail may be the starting point of infection for a whole community.

The asylums as a general thing, as is seen by this report, are in most instances in very ill-constructed buildings, and are wholly inadequate to their use.

I repeat again a proposition, which is to publish in our annual report plans for county asylums, approved by the Board.

REPORT FROM THE SOUTHEASTERN SANITARY DISTRICT.

BY S. S. BOOTS, M. D.

Soon after the State was divided into districts for sanitary purposes and the territory known as the southeastern district was assigned to me for the investigation of its sanitary condition, I addressed to each of the county and some of the city health officers the following letter:

GREENFIELD, IND., ..., 1888.

................................, M. D.,
Sec'y Co., Board of Health:

DEAR SIR.—Having been put in charge of the Sanitary District of which your county forms a part, I am desirous of information concerning the sanitary condition of your Poor Asylum, Jail and also every other county or State Institution that may be within your jurisdiction; also the existence of any nuisances or any thing dangerous to the public health. Please reply at once and oblige.

Yours fraternally,
S. S. BOOTS.

Replies were received from all the County Health Officers but those from Decatur, Franklin and Switzerland; also, from the following City Health Officers, J. L. Jones, M. D., of Franklin and M. G. Falconberg, M. D., of Greensburg.

The following statement will show in brief the sanitary condition of this district so far as learned by the above correspondence and in some instances by personal observation:

In the Jennings County Poor Asylum there are forty-two inmates, twenty two males and twenty females. Of these fifteen are idiotic, six males and nine females; eight are insane, six males and two females; blind, three, one male and two females. From May 1, 1887 to May 1, 1888 there were ten deaths, four males and six females; four of these were epileptic; two from old age, one from consumption, one from dropsy, one from erysipelas and one from chills.

The County Jail contains but one inmate; Dr. C. H. Green, Health Officer, reports that as a rule it is not occupied and that before and after Court the walls are nicely whitewashed.

In Clark County all of the public buildings are in a good sanitary condition. Dr. D. C. Peyton, Health Officer, says: "I would not permit them to be in any other condition." Which is quite commendable to say the least.

The Shelby County jail is in a good condition. The poor asylum contains fifty inmates, thirty-five males and fifteen females. Twenty-five per cent. are aged persons, and the same per cent. are feeble minded. Twenty per cent. are children from one to fifteen years of age, a majority of whom are boys.

Ten per cent. of the inmates are epileptic. The buildings are too small to accommodate the number claiming the county's charity during the winter season. The rooms and bedding are in a moderately good condition. The rooms are free from bad odor except the kitchen, which is used also as a dining-room. The Superintendent complained of this, and requested more room. The wash house adjoins the main building, and is in a bad condition, it has a stone floor which is uneven and hard to clean, the drain for waste water was clogged so that the yard was overflowed. This was ordered to be repaired.

The asylum and farm (160 acres) are rented to the Superintendent for seven hundred dollars per annum, with provisions furnished for his family, all the proceeds going to the county. The commissioners furnish every thing except two teams.

Harrison County asylum is in a good condition. The jail of this county is possibly as good as can be under the present state of affairs, but has been improved to a great extent recently.

Dr. M. G. Falconberg, City Health Officer for Greensburg, reports the childrens' home, which is within the city limits, in good condition, and as well managed as any institution in the State.

The Rush County asylum is in a fair condition, but the buildings are old and not very well adapted to their use. I made an inspection of them a year since and at that time found every thing cleanly in and around the place. The jail is a miserable apology and certainly reflects no credit upon the county, it has been condemned by several grand juries, but as yet with no results. The only way to remedy this prison is to rebuild it.

In Fayette County the public buildings are in a good sanitary condition. The asylum has thirty-nine inmates, twenty-one males and eighteen females, four insane and four idiotic. Within the year there has been three deaths, one of old age, and one of a railroad accident, and an infant of malnutrition. The building was not erected for the purpose for which it is used, and lacks the modern conveniences such as furnace, bathrooms, also the sewerage and water system.

The Jackson County Jail is well lighted and the ventilation good. But the sewerage is very bad.

The Asylum of the county is reported to be in good condition.

There is undoubtedly need of much reformation in the condition of many of our public buildings and in their management. This is especially the case with the poor asylums, many of them being erected for other purposes, and with additions made from time to time as became necessary. The management of these Institutions are often in the hands of persons wholly incompetent. In many cases instead of making an effort to secure the services of a capable Superintendent, it is given to the applicant who will take charge of the asylum for the lowest compensation, and often to the man who may be capable of looking after the affairs of the annexed farm. A man may be an excellent business manager or a fine farmer and entirely competent to manage the county's interests from a financial standpoint, but prove himself a complete failure in controling the inmates and looking after them properly, and may be very ignorant about the sanitary condition of the building. One of the great and growing evils are the number of children found in these institutions. In Shelby county one-fifth of the inmates are children under fifteen years, and in some counties the per cent. is even greater. In many instances there is no provision made for keeping the children separate from the idiotic and vicious, but are all brought up as common herd. Can it seem strange that by rearing these children under such associations, and finally turning them out debased and vicious, allowed to marry and intermarry, that we should have so many paupers and criminals. There certainly should be an effort made to provide separate establishments for these unfortunate children where they could have school advantages and taught some useful trade or occupation so that when they reach an age suitable and go out into the world they might become useful citizens instead of indolent and vicious beings in human shape to rear families to again fill our poor houses and jails.

A SANITARY SURVEY OF THE NORTH-WEST SANITARY DISTRICT.

BY JOHN N. TAYLOR.

In dividing the State into sanitary districts the following counties were assigned me for supervision, viz: Hendricks, Boone, Clinton, Carroll, Cass, Fulton, Starke, Laporte, Porter, Pulaski, White, Tippecanoe, Montgomery, Parke, Vermillion, Fountain, Warren, Benton, Newton, Jasper, Lake, Marshall, St. Joseph — in all twenty-three.

At the outset the inspector found himself hindered from making a thorough personal survey, by reason of an insufficiency of funds for carrying on the work of the State Board of Health. Except in such cases as seemed imperatively to require his presence, he therefore delegated his powers to such county and city health officers as by their zeal and fidelity to the cause of public sanitation had commended themselves to the confidence of the central board. The principal work sought to be accomplished by the supervision was that undertaken by the State Board of Health some two years since, viz: that of inquiring into the sanitary condition of the asylums and prisons throughout the State, and endeavoring to bring about needed reforms in their construction, furnishing and management, a work since undertaken by other States, notably Michigan by order of her Governor, and more recently New Jersey.

Besides this, the origin of contagious and infectious disorders was to be sought out, and anything calculated to endanger the public health was to be made known and provided against.

In nearly or quite every instance my inquiries were met with prompt and explicit answers, such as reflects credit upon the health service of the State.

The statistics presented by these reports, and my personal inspections, are varied and interesting, and would well repay perusal could space sufficient for an exhibit be allowed. The space will but suffice, however, to deal briefly with the matter of the sanitary surveys of the asylums and prisons.

The scenes presented in Dr. Fritsch's reports find a repetition in the district under my charge. There are a few asylums and jails within its boundaries which, in point of construction, supplies and general management, are creditable to the counties in which they are located; there are more, however, whose utter inadequacy, disregard of principles of sanitation, and in some cases, common decency, demand instant and thorough reform. With the exception of but one or two all are deficient in that discipline that regulates labor and recreation, diet and times of retiring and rising. Our almshouses should not be made pens for the fattening of idle lazzaroni, nor halting places where tramps may recruit their wasted energies preparatory to a resumption of their vicious peregrinations. Every individual entering one of our county asylums should immediately be brought under a discipline not too rigorous, but sufficient to inculcate habits of cleanliness, sobriety and industry. Each should be required to perform some regular daily task suited to his or her physical ability, keep the person and clothing clean and refrain from intoxicants and the use of profane language.

The immediate results of such an enforcement would be that many who are now kept by public charity would find it just as convenient and more remunerative to labor for their own behoof, and enjoy freedom of action with the accustomed luxuries of dirt and profanity. Those who remain, however, would be taught habits of industry and thrift, to which they have heretofore been strangers and the acquisition of which would make their presence in the community not only tolerable, but acceptable.

Employment ought also to be invariable found for the inmates of the jails, not only for purposes of correction, but also as a preventive against disease and conspiracies.

The Inspector thinks it would prove well in every way were the authorities to carry out the suggestions of Warden Patton, and have the asylums supplied with clothing by the State Prisons. The facilities are ample, and this might be done at a great saving to county and State. The Prison North can furnish everything needed to clothe a man, including shoes, caps and hosiery; in addition, it can furnish chairs, tables, etc., while the Prison South can furnish many of the above articles, and, also, pots, kettles and the like for kitchen use. Two problems would thus be solved—that of furnishing the various asylums most efficiently at a minimum of cost, and also using convict labor in such a way as would make its competition the least objectionable to our free workmen.

But the deficiencies indicated above are small matters when compared to some of the abuses that obtain in the maintenance of the "poor houses" of the State.

One of the ideas that seems to obtain in certain counties, is that a "poor house" is a kind of pound in which impoverished human cattle are to be kept at the smallest possible cost, regardless of the consideration of principles of benevolence and decency.

The above is said advisedly, and after due deliberation. Should particulars be required, they may be found in a report submitted to the State Board of Health by Dr. Seawright, and now on file in the office of its Secretary.

I can not pass from this portion of my subject without presenting to the reader a scene such as greeeted the eye of the inspector, when, after a drive of some sixteen miles one hot July afternoon not long since, he stopped to open a crippled gate that guarded the entrance to the grounds upon which is situated the ——— county asylum. The practiced eye readily recognizes the average county poor house, and therefore no trouble was experienced in singling out this one. It stands upon a spot of ground grassless and treeless, save some three or four apologies for the latter, in the shape of old locusts, that were visibly trying to die, and yet, like Meg Merrilies' guilty charge, could not make an end of it—a haunt of vagabond pigs and a deposit place for unclassified garbage, it is altogether as forbidding to the eye as one might suppose the blasted heath where Macbeth encountered the weird sisters. The exterior of the house (a brick) is in perfect keeping with the surroundings. A blackened roof, fast falling into decay; a cornice warped and twisted from its anchorage, carrying the spouting with it; smoke-begrimed, dirt-besmeared walls, cracked from foundation stone to eave, and threatening to tumble into ruins at any moment; crownless chimneys, their bricks scattered in the yard below; warped and paintless window frames and sashes, the places of many of the panes usurped by rags as multiform in their colors as the famed coat of Joseph. The interior holds no dispute with the outer part. The floors are rotten, blackened and seamed with cracks. The plastering is falling from ceiling and wall, exhibiting great patches of bare lath. These patches afford inaccessible lurking places for innumerable bed-bugs and other unclassified vermin. The rooms are small, badly ventilated, and usually so filled with beds that but a narrow passage-way between them is afforded the inspector upon his rounds, who, if he be as cautious as the circumstances warrant, would refrain from touching them did not duty require him to lift the dirty, bad-smelling coverlets and inspect each article of bed furniture in its turn. While doing so his labors are rewarded by seeing a concourse of bed-bugs skurrying away to their fastnesses in the joints of the bedstead. The inspector, on inquiry, finds that as many as three grown persons sleep on one of these wretched narrow beds, and that as many as twelve lodge in one of these little, badly ventilated rooms. As for the wearing apparel, the familiar barn-yard scare-crow is dressed better than are the inmates of this pen.

To the question, "Why has not this been done, or why is not this evil remedied?" the Superintendent returns an answer varied only in its phraseology—"the Commissioners will make no allowance." The Superintendent is an honest farmer; willing to do the best he can, but having little qualifications for managing other than the farm attached. He lost his wife since taking charge. She died of typhoid fever engendered by bad water, a pestilential atmosphere, and over-work—the latter occasioned by insufficient help and an effort to live within the meager salary—eight hundred a year, and find ones own help. The poor Superintendent had recently a narrow escape from death at the hands of a furious maniac, with whom he had to contend at hands-grip until nearly exhausted, when help chanced to come. Respect for the man is greatly enhanced, when one finds that his appreciation of the absolute degradation of his surroundings is so keen as to prompt him to place his only child, a daughter, at a neighbor's.

But space will not permit for a working out of the picture in all its repulsive details. Suffice it to say that in its entirety—grounds, outhouses, the house itself, its inmates, the enchanted keeper who, poor fellow, seemed not to be aware of the fact that he could not get away from there and turn his hand to something else, it was and is a perfect symphony of dirt and misery. It was as oppressive as a nightmare and lay heavy upon the sight of the inspector long after he was miles upon his road home. In passing out of the grounds, he turned to look once more, and saw an ugly blot upon the fair summer landscape, and heard a poor old woman, whose former lot had been far above her present circumstances, imploring to be taken away, and charging him with fruitless messages to a recreant son who had left her there.

In the above case inquiry showed that the Commissioners were directly responsible. The public, however, is indirectly responsible. The amount paid Commissioners for their services is so small, the responsibility that rests upon them so great, that it is rare that good business men can be secured for the place. The result is that the public charities, with but a few shining exceptions, are mismanaged; regard being had only for what is supposed to be the wish of tax-payers, in pursuance of which idea provision is made with such a niggardliness, as is a reproach and a shame to those who are responsible.

However, through the efforts of the State Board of Health, seconded by those of certain of the County Boards, reform is taking place in some of the counties, and it is hoped that the example will prove contagious. Montgomery County has recently reconstructed her county house, having built an addition thereto, which, together with the water supply, sewerage and heating apparatus cost something over $20,000. This institution is now a credit to the county, and to the Commissioners, through whose liberality and enterprise the work was consummated. Other counties are now contemplating like improvements, or have them under way. To such, the Inspector suggests that an abundant supply of good water is a prime necessity, and that efficient means should be provided for using it in washing copiously, halls, stairways, rooms, closets, etc., also for bathing purposes, sewerage, etc. An average county asylum is the most difficult of all other buildings to keep clean and wholesome, and for very obvious reasons. Steam or hot-air heat will prove the most satisfactory, and, in the end, the most economical.

The State Board of Health proposes in the near future to offer a plan of a complete asylum, such as will accommodate an hundred inmates. The plan will provide for a durable structure, at the smallest possible cost, to be built in accordance with the best known rules of sanitation, including those of water supply, drainage, heating, etc.

In company with Dr. Seawright I visited the Northern Asylum for the Insane, near Logansport. A careful inspection of the various departments exhibited a sanitary condition that was very gratifying. The medical attendance was efficient, and appeared to be yielding good results in the restoration of those under treatment.

Such is the magnitude of the work glanced at in the foregoing pages, and so tardy in appearing are the results sought for, that those who have taken it in hand gladly welcome to a participation in it any auxiliary that the State may see good to provide.

SEVENTH ANNUAL REPORT

OF THE

Bureau of Vital and Sanitary Statistics,

FOR THE

YEAR ENDING SEPT. 30, 1888.

BY C. N. METCALF, M. D., SUPERINTENDENT.

Herewith is presented a tabulated statement of marriages, births and deaths, for the year ending September 30, 1888.

As has been stated in former reports, it is impossible under our present law to gather complete returns.

It is argued that since the returns of the number of deaths are so incomplete it is not worth while to attempt a minute classification of the data, and that it is especially a waste of effort to prepare tables, that is, to attempt to prepare mortality rates. If we consider only the results to be obtained by the tabulation of the present figures, there would be much force in this objection, and it certainly would not have been worth while to prepare all of the tables herewith presented; but it must be remembered that the forms of tabulation adopted will be followed to a certain extent in other tabulations to be made hereafter, and for which we have good reason to hope much more complete data will be furnished. It should be borne in mind, therefore, that a certain proportion of the following tables have been prepared, not so much with reference to the value of the conclusions, which may be drawn from them, as to serve as an indication of the manner in which the work should be done, when complete data are obtainable.

TABLE A.

Deaths by Counties, Year Ending September 30, 1888.

COUNTIES.	1887.						1888.																		Males.	Females.	Total.
	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April.		May.		June.		July.		Aug.		Sept.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Adams	3	1	3	4	2	4	5	3	2	5	4	3	4	3	4	9	5	..	2	1	..	3	3	3	37	39	76
Allen	29	32	31	24	23	26	40	34	32	18	49	29	35	35	24	18	22	15	57	49	37	27	41	47	420	354	774
Bartholomew	16	9	6	7	7	9	14	15	6	13	20	12	7	14	15	9	12	10	19	9	15	11	11	13	148	131	279
Benton	1	3	3	1	1	..	5	3	3	2	4	5	1	5	1	..	..	2	2	2	3	4	1	1	25	28	53
Blackford	3	1	3	2	2	..	5	2	5	5	6	3	3	..	2	1	1	1	..	2	2	..	3	..	35	17	52
Boone	10	3	3	2	2	1	9	8	6	3	2	6	18	15	4	7	3	8	11	15	12	9	4	4	84	81	165
Brown	1	..	..	..	..	2	2	2	1	5	4	2	3	..	1	1	..	..	4	2	4	1	..	2	20	17	37
Carroll	15	4	8	4	4	9	16	14	6	3	10	3	9	8	3	2	1	4	9	14	17	4	7	6	105	75	180
Cass	10	7	9	10	7	6	6	8	4	5	3	9	4	11	3	2	6	7	13	6	4	9	11	7	80	87	167
Clark	14	5	8	12	10	3	8	9	12	16	11	8	14	8	5	6	16	12	16	21	22	13	12	16	148	129	277
Clay	3	4	4	10	4	4	6	12	8	7	1	4	4	5	7	2	2	..	8	2	3	2	8	1	58	53	111
Clinton	3	..	..	..	1	..	4	2	2	6	6	2	3	2	1	1	2	2	3	4	2	4	4	5	31	28	59
Crawford	3	4	2	8	..	2	7	11	10	3	11	8	7	4	2	6	4	6	3	3	11	9	8	4	68	68	136
Daviess	6	6	13	9	8	9	16	11	12	8	17	15	10	12	9	9	15	9	9	6	15	10	11	6	141	110	251
Dearborn	3	3	5	3	2	2	7	9	9	9	10	8	7	5	4	2	8	5	3	3	5	1	5	2	68	52	120
Decatur	13	12	9	8	7	5	2	7	4	7	9	8	2	3	1	7	5	5	2	3	4	2	13	8	71	75	146
Dekalb	4	2	1	1	1	1	4	6	1	2	..	..	..	2	..	5	1	1	1	1	1	..	2	2	16	23	39
Delaware	13	17	7	8	5	10	11	11	14	16	8	11	1	4	12	11	4	9	4	8	10	8	15	11	104	124	228
Dubois	23	15	5	13	7	5	2	3	6	3	2	5	7	8	5	4	3	3	3	5	7	8	..	..	70	72	142
Elkhart	23	18	13	12	15	13	14	16	15	21	16	17	24	28	13	17	14	16	8	3	9	7	5	3	169	171	340

TABLE A—Continued.

Deaths by Counties, Year Ending September 30, 1888.

COUNTIES.	1887.						1888.																					
	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April.		May.		June.		July.		Aug.		Sept.		Males.	Females.	Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Fayette	9	1	2	..	3	2	2	..	2	2	3	3	4	4	3	1	1	2	3	3	4	3	2	2	38	23	61
Floyd	11	15	5	7	12	11	21	22	7	9	11	8	13	12	6	6	8	7	15	14	17	9	6	4	132	124	256
Fountain	7	..	6	7	3	2	7	5	8	1	8	11	14	11	6	5	2	3	6	6	.	5	6	5	73	61	134
Franklin	4	3	1	5	3	3	5	8	2	5	2	7	11	2	4	5	1	4	6	3	4	4	1	3	44	52	96
Fulton	3	2	4	4	3	2	8	8	8	7	8	3	10	12	4	5	7	..	9	4	7	5	5	6	76	58	134
Gibson	13	13	8	7	2	4	16	16	10	12	11	7	12	5	6	11	7	5	9	10	5	5	2	4	101	99	200
Grant	5	3	..	5	2	4	8	3	4	3	4	..	24	11	17	12	14	8	4	..	3	1	4	11	89	61	150
Greene	4	6	3	3	1	3	2	4	11	6	4	4	2	3	1	3	1	2	1	3	1	2	4	3	35	42	77
Hamilton	14	12	5	6	..	2	11	13	6	11	3	7	5	8	8	9	1	3	12	12	6	9	6	3	77	95	172
Hancock	3	4	3	8	2	4	3	12	6	11	7	6	9	6	8	8	9	7	4	9	10	12	7	5	71	92	163
Harrison	8	3	5	8	5	7	10	6	16	10	12	4	4	6	6	7	7	6	6	3	8	3	6	5	93	68	161
Hendricks	2	7	1	7	6	7	18	10	13	14	8	7	8	12	10	11	6	4	9	7	7	9	6	5	94	100	194
Henry	13	8	7	10	7	8	9	4	27	17	20	25	10	16	14	9	8	8	16	13	14	13	12	22	157	153	310
Howard	5	2	3	4	6	1	5	5	5	7	6	3	7	11	1	4	3	5	10	9	3	6	4	7	58	64	122
Huntington	14	16	11	9	5	13	20	14	13	16	14	9	14	5	11	7	6	13	16	16	15	21	12	17	151	156	307
Jackson	13	7	10	14	24	17	11	9	13	13	10	9	14	24	7	8	5	6	15	17	10	5	3	7	135	136	271
Jasper	1	3	..	3	1	4	2	3	1	4	2	3	4	3	..	1	1	..	6	5	..	2	7	1	25	32	57
Jay	5	5	3	3	3	1	14	17	6	7	5	3	11	8	3	7	6	4	15	19	12	14	6	9	89	97	186
Jefferson	7	2	4	3	2	9	1	3	1	8	4	8	3	2	3	5	7	2	1	4	6	4	4	..	43	50	93
Jennings	4	8	4	4	..	2	9	9	6	11	5	8	5	7	4	2	2	6	11	6	8	9	3	5	61	77	138

Johnson	11	15	9	7	7	5	10	11	4	11	4	11	13	9	9	6	8	6	14	8	3	7	7	5	99	101	200
Knox	11	2	7	3	3	7	7	7	7	7	10	11	9	11	5	4	2	6	5	2	9	7	2	5	77	72	149
Kosciusko	7	2	6	3	6	7	6	9	7	8	8	7	11	14	7	8	1	5	11	5	2	10	5	3	77	81	158
Lagrange	5	7	4	1	1	4	1	3	6	11	11	7	6	8	2	2	9	4	5	2	5	3	5	12	60	64	124
Lake	6	6	5	1	3	1	5	5	4	6	2	5	5	7	..	3	4	3	6	7	10	3	9	12	59	59	118
Laporte	8	10	10	11	10	17	8	12	15	12	21	20	10	13	16	9	7	6	14	19	11	16	11	10	141	155	296
Lawrence	5	3	1	2	3	8	2	2	2	4	4	8	11	8	6	9	4	4	10	15	11	6	9	10	68	79	147
Madison	9	14	14	8	8	10	15	9	20	22	12	7	12	13	7	7	3	3	17	13	11	12	10	4	138	122	260
Marion	87	84	89	60	84	84	116	92	93	89	114	94	96	91	86	74	101	86	107	94	103	110	91	90	1,167	1,048	2,215
Marshall	..	..	..	..	..	..	4	5	4	9	3	3	11	8	9	4	8	2	12	4	4	8	6	8	61	51	112
Martin	3	6	2	2	2	7	6	5	8	6	2	7	5	2	..	..	1	2	2	3	3	4	2	4	36	48	84
Miami	6	8	2	1	2	2	16	5	10	7	8	12	8	8	9	4	8	4	2	1	3	8	4	2	78	62	140
Monroe	3	5	7	1	1	4	5	10	8	12	9	6	8	6	5	8	2	7	5	7	2	3	1	3	56	72	128
Montgomery	19	20	13	11	10	9	12	15	15	13	20	27	13	17	9	10	8	4	12	13	19	14	5	12	155	165	320
Morgan	3	4	3	3	1	4	9	3	..	7	8	2	5	2	1	..	2	1	5	4	7	7	..	..	44	37	81
Newton	2	4	1	..	..	..	2	1	2	4	1	2	5	5	2	3	2	3	4	1	..	5	3	2	24	30	54
Noble	..	1	5	1	6	1	7	2	2	1	4	8	..	3	1	2	..	1	3	3	2	4	1	3	31	30	61
Ohio	..	1	1	3	3	1	4	5	3	6	5	1	..	1	4	2	6	1	10	5	3	6	..	2	39	34	73
Orange	9	8	4	3	2	5	6	8	3	4	5	5	7	2	1	..	..	1	1	2	7	2	4	..	49	35	84
Owen	..	7	2	2	7	3	9	3	3	7	5	3	3	5	3	5	4	4	4	1	4	5	3	3	47	48	95
Parks	3	1	2	..	7	3	6	4	7	9	13	12	6	6	2	4	2	6	7	2	3	4	4	1	62	52	114
Perry	2	2	1	2	2	1	1	2	4	8	8	8	8	9	..	4	5	5	5	6	1	..	..	1	37	48	85
Pike	3	2	3	3	6	3	3	..	1	..	2	3	4	3	..	1	..	1	2	2	2	9	5	5	31	32	63
Porter	6	3	11	4	4	5	5	6	5	8	13	8	6	7	8	5	2	4	7	5	5	8	3	3	75	66	141
Posey	22	13	8	14	7	4	19	16	11	9	6	10	13	6	8	4	3	4	6	7	5	7	10	8	118	102	220
Pulaski	3	..	2	2	..	1	7	3	5	3	2	3	9	4	4	1	1	..	1	3	3	2	4	4	41	26	67
Putnam	9	7	9	8	6	6	16	13	9	10	4	9	11	9	5	4	3	3	8	15	11	9	7	6	98	99	197
Randolph	11	5	9	10	9	7	11	6	6	14	30	12	9	20	12	8	6	8	11	5	10	10	16	13	140	118	256
Ripley	4	4	6	2	5	2	7	9	8	4	6	3	3	..	6	3	2	1	3	2	1	2	1	2	52	34	86
Rush	7	6	3	4	7	5	7	5	11	11	6	12	4	8	5	4	3	7	4	10	10	13	6	10	73	95	168
Scott	1	4	1	..	..	3	2	1	2	2	..	..	3	5	..	..	1	3	2	1	6	2	..	..	18	21	39
Shelby	21	32	8	6	6	3	20	20	9	6	16	11	8	6	6	8	3	2	12	16	10	9	10	5	129	124	250
Spencer	8	11	7	8	3	8	7	5	7	11	8	9	12	15	8	7	7	11	21	21	24	12	12	13	124	131	255
Starke	..	..	1	1	1	..	1	2	1	..	1	1	..	1	1	..	2	..	2	2	1	..	1	1	12	8	20
Steuben	5	2	2	2	1	5	1	..	3	3	..	1	5	1	..	2	1	3	..	..	1	1	1	2	20	22	42
St. Joseph	3	7	5	10	4	6	6	7	7	4	3	2	10	4	..	1	3	1	3	4	4	2	1	1	49	49	98
Sullivan	1	4	3	3	7	4	3	5	5	7	4	9	6	7	1	3	4	1	2	2	7	..	5	3	48	48	96
Switzerland	3	1	1	1	1	4	3	1	3	2	..	1	..	2	..	..	1	1	2	3	..	1	7	1	21	18	39
Tippecanoe	17	7	12	4	12	7	4	3	3	2	8	3	7	8	7	3	5	4	17	5	7	2	10	13	109	61	170
Tipton	4	7	2	3	2	3	4	4	3	4	3	1	2	3	1	4	3	4	8	9	7	11	4	4	43	57	100
Union	3	2	2	1	1	1	2	2	1	4	1	..	..	2	4	1	1	1	5	1	1	1	..	..	21	16	37
Vanderburgh	47	46	43	39	37	39	44	29	39	37	35	26	35	24	28	34	47	45	66	46	60	51	37	43	518	459	977

TABLE A—Continued.

Deaths by Counties, Year Ending September 30, 1888.

COUNTIES.	1887.						1888.																					
	Oct.		Nov.		Dec.		Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	T.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Males.	Females.	Total.
Vermillion	1	3	6	3	7	1	1	5	2	4	4	2	1	. .	2	1	1	. .	3	1	2	1	3	2	33	23	55
Vigo	19	18	25	15	11	8	44	50	24	24	22	34	44	30	18	41	30	26	26	32	34	33	19	28	316	339	656
Wabash	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Warren	4	8	4	2	8	4	2	3	3	3	8	6	1	3	3	3	3	. .	. .	. .	. .	. .	1	. .	37	32	69
Warrick	6	7	10	4	5	3	15	10	9	11	9	6	3	9	5	1	1	2	5	8	3	7	5	3	76	71	147
Washington	5	8	2	3	2	. .	5	. .	2	6	8	5	6	9	1	. .	1	. .	. .	. .	. .	. .	. .	. .	32	31	36
Wayne	14	23	25	17	11	20	10	27	17	17	28	26	25	31	18	16	11	17	30	36	30	32	18	29	237	291	528
Wells	. .	. .	1	2	. .	. .	. .	3	1	1	2	1	4	4	3	1	4	2	8	4	4	3	3	2	30	23	53
White	3	2	3	2	. .	1	3	4	1	6	3	6	4	4	3	3	3	4	3	4	4	1	2	2	32	39	71
Whitley	8	6	5	3	1	1	4	7	6	2	5	5	11	13	10	9	4	4	4	3	7	4	5	4	70	61	131
Totals	778	714	625	556	530	554	878	816	754	809	854	774	845	826	589	581	569	533	873	786	805	750	648	664	8,748	8,363	17,111
Still births	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .		. .	. .	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	541	371	912
Grand total	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	.	. .	. .	9,289	8,734	18,023

TABLE B.

Causes of Death for the Year Ending September 30, 1888.

CLASS ONE—ZYMOTIC DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mch.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—MIASMATIC.																	
Anthrax	1	. . .	. . .	1	. . .	. . .	1	. . .	. . .	1	. . .	. . .	3	1	4	. . . .	4
Chill, congestive	3	1	1	1	2	4	. . .	2	3	6	9	1	17	16	33	. . . .	33
Cholera infantum	54	7	5	4	1	1	1	7	71	289	251	121	462	350	796	16	812
Cholera morbus	. . .	1	1	3	1	. . .	. . .	1	2	10	5	4	13	15	27	1	28
Croup	30	40	28	36	28	14	17	10	4	4	3	6	109	111	215	5	220
Diarrhœa	12	9	6	10	7	8	8	. . .	8	29	28	21	91	55	141	5	146
Diphtheria	58	41	38	36	27	23	18	11	21	10	21	48	166	186	344	8	352
Dysentery	46	15	3	3	5	5	4	3	11	65	96	59	162	153	303	12	315
Entero-coletis	11	2	2	1	2	. . .	. . .	. . .	9	22	25	19	46	47	98	. . . .	93
Erysipelas	2	1	8	10	6	12	10	7	5	7	1	6	46	29	74	1	75
Fever, bilious	1	1	. . .	. . .	. . .	. . .	1	1	. . .	. . .	. . .	. . .	4	. . . .	4	. . . .	4
Fever, catarrhal	2	1	5	4	7	4	5	2	3	1	. . .	. . .	15	18	33	. . . .	33
Fever, cerebro-spinal	12	14	12	18	20	6	9	17	9	8	6	7	71	67	134	4	138
Fever, congestive	2	. . .	1	1	3	. . .	2	1	. .	1	1	1	6	7	11	2	13
Fever, continued	1	. .	. . .	. . .	1	. .	1	. . .	. . .	. . .	. . .	1	2	2	4	. . . .	4
Fever, intermittent	1	. . .	. . .	1	. . .	. . .	4	. . .	. . .	1	. . .	. . .	3	4	5	2	7
Fever, malarial	19	6	5	9	9	11	8	9	8	7	14	12	48	69	111	6	117
Fever, pernicious	4	2	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	3	4	7	. . . .	7
Fever, puerperal	3	4	6	6	10	11	9	5	7	8	4	3	. . . .	76	72	4	76
Fever, remittent	6	4	3	4	. . .	1	4	3	2	4	12	1	19	25	43	1	44
Fever, rheumatic	. . .	. . .	. . .	1	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . . .	2	2	. . . .	2
Fever, scarlet	7	18	12	19	12	23	13	13	11	10	8	16	75	87	161	1	162
Fever, typhoid	176	140	70	81	40	29	28	22	22	46	94	130	452	426	848	30	878
Fever, typhoid malarial	16	13	7	4	2	4	2	1	4	5	12	19	39	50	87	2	89
Flux	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	5	3	2	4	6	9	1	10
Gangrene	4	5	3	4	2	3	2	. . .	4	4	3	9	24	19	42	1	43
Glanders	. . .	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	1	. . . .	1	. . . .	1
Measles	3	7	9	21	20	60	71	41	12	13	4	3	121	143	262	2	264
Milk sickness	. . .	. . .	3	. . .	. . .	. . .	. . .	. .	. . .	2	1	. . .	3	3	6	. . . .	6
Mumps	. . .	. . .	2	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . . .	2	2	. . . .	2
Peritonitis puerperal	3	1	2	2	5	2	6	4	1	1	1	1	. . . .	29	28	1	29
Pertussis	9	4	3	9	20	16	23	17	7	12	16	6	65	77	135	7	142
Pyaemia	16	6	6	18	16	10	11	9	10	13	9	8	63	69	124	8	132
Septaemia puerperal	2	. . .	1	1	1	. . .	2	3	1	. . .	1	3	. . . .	15	15	. . . .	15
Total	503	343	243	309	248	247	260	189	235	584	628	507	2,133	2,163	4,176	120	4,296

TABLE B—Continued.

Causes of Death for the Year Ending September 30, 1888.

CLASS ONE—ZYMOTIC DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER TWO—ENTHETIC.																	
Syphilis, acquired	2	...	...	1	3	...	1	2	...	...	2	...	4	7	11	...	11
Syphilis, congenital	1	2	2	2	...	1	..	2	1	...	...	1	11	1	11	1	12
Total	3	2	2	3	3	1	1	4	1	...	2	1	15	8	22	1	23
ORDER THREE—DIETIC.																	
Delirium tremens	...	...	2	...	...	...	...	...	...	2	1	...	5	...	5	...	5
Eczema	1	...	1	...	...	1	...	...	...	1	...	...	2	2	4	...	4
Inanition	28	13	16	12	10	7	16	17	19	32	30	24	104	120	210	14	224
Intemperance	3	...	3	4	4	...	3	2	1	3	2	3	24	4	28	...	28
Purpura	...	...	...	...	...	...	2	1	...	...	...	1	3	1	4	...	4
Urticaria	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	1
Total	32	13	22	16	14	8	21	20	20	38	33	29	138	128	152	14	266
ORDER FOUR—PARASITIC.																	
Aphtha	...	...	...	...	...	...	1	...	...	1	1	...	...	3	3	...	3
Total	...	...	...	...	...	...	1	...	...	1	1	...	...	3	3	...	3
Total zymotic diseases	538	358	267	328	265	256	283	213	256	623	664	537	2,286	2,302	4,453	135	4,588

TABLE B—Continued.

Causes of Death for the Year Ending September 30, 1888.

CLASS TWO—CONSTITUTIONAL.	Oct.	Nov.	Dec.	Jan.	Feb.	Mch.	Apr.	May.	June	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—DIATHETIC.																	
Anæmia	1	3	3	4	3	3	7	2	. .	4	1	2	7	26	33	. . . .	33
Cancer	25	26	17	25	26	26	32	27	26	44	27	27	116	212	323	5	328
Dropsy	22	15	15	14	13	18	23	17	11	18	9	10	94	91	171	14	185
Goitre	1	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	1	1	2	. . . .	2
Leucocythæmia	. . .	. . .	. . .	. . .	. . .	1	. . .	1	1	. . .	. . .	. . .	. . . .	3	3	. . . .	3
Lymphadenoma	. . .	. . .	. . .	. . .	. . .	1	. . .	. . .	. . .	1	1	1	3	1	4	. . . .	4
Rheumatism	4	9	6	8	11	8	20	13	4	6	4	6	44	55	97	2	99
Total	53	53	42	51	53	57	82	60	42	73	42	46	265	389	633	21	654
ORDER TWO—TUBERCULAR.																	
Abscess, psoas	. . .	. . .	2	. . .	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	. . . .	3	3	. . . .	3
Hydrocephalus	4	2	1	. . .	8	4	3	2	1	8	7	11	31	20	49	2	51
Meningitis tubercular	5	5	2	6	9	6	7	2	4	6	5	. . .	34	23	54	3	57
Morbus Coxarius	. . .	. . .	. . .	1	. . .	. . .	. . .	1	. . .	1	1	1	4	1	5	. . . .	5
Phthisis	189	446	148	185	170	227	216	177	152	176	158	99	863	1,180	1,903	140	2,043
Scrofula	4	3	1	3	2	3	6	5	10	2	2	2	21	22	39	4	43
Tabes mesenterica	5	2	2	2	2	4	3	1	2	. . .	1	3	14	13	25	2	27
Total	207	158	156	197	191	245	235	188	161	201	174	116	967	1,262	2,078	151	2,229
Total constitutional diseases	260	211	198	248	244	302	317	248	203	274	216	162	1,232	1,651	2,711	172	2,883

TABLE B—Continued.

Causes of Death for the Year Ending September 30, 1888.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
Order One—Nervous System.																	
Apoplexy	24	21	15	41	28	17	22	22	15	26	15	14	147	113	254	6	260
Brain, abscess	...	...	2	...	...	...	3	2	6	1	2	1	8	9	16	1	17
Brain, congestion	17	12	11	23	19	15	37	24	23	30	17	22	113	137	238	12	250
Brain, disease	4	3	2	3	2	4	6	2	1	3	6	4	26	14	39	1	40
Brain fever	4	1	5	8	3	3	16	6	13	12	12	5	49	39	82	6	88
Brain, softening	7	6	5	5	8	10	3	8	5	8	2	3	45	25	69	1	70
Brain, tumor	...	...	...	1	...	...	...	...	...	2	2	...	4	1	5	...	5
Cerebritis	10	3	3	12	9	12	16	5	10	18	12	8	68	50	118	...	118
Chorea	1	...	...	...	...	...	2	...	...	...	...	...	...	3	3	...	3
Convulsions	16	19	21	23	21	21	32	14	30	34	28	24	164	119	272	11	283
Epilepsy	2	2	1	6	2	2	7	2	7	2	2	2	23	14	36	1	37
Insanity	1	1	...	3	2	3	...	...	2	...	...	1	4	9	13	...	13
Locomotor ataxia	...	1	...	...	2	...	...	1	...	1	1	...	3	3	6	...	6
Meningitis	14	15	16	25	27	33	37	25	26	36	33	15	145	157	282	20	302
Meningitis, cerebral	5	1	2	10	6	12	...	...	...	3	8	1	24	24	47	1	48
Meningitis, spinal	1	...	1	1	3	4	...	...	...	4	8	5	14	13	27	...	27
Muscular, atrophy	...	...	...	...	...	...	...	...	...	1	...	1	1	1	2	...	2
Myelitis	...	...	1	...	...	...	1	...	...	1	...	...	2	1	3	...	3
Nervous prostration	1	2	3	5	1	4	1	3	2	3	3	5	15	18	32	1	33
Neuralgia	...	...	3	2	...	...	1	2	1	...	...	...	4	5	9	...	9
Paralysis	26	23	27	34	37	31	35	29	23	26	26	22	162	177	330	9	339
Rachitis	...	...	...	1	1	1	...	...	...	...	...	...	3	...	3	...	3
Spina bifida	...	2	2	2	...	3	1	...	...	...	...	...	5	5	10	...	10
Spine disease	2	2	1	2	4	3	4	2	3	4	3	2	19	13	28	4	32
Tetanus	3	7	1	5	4	1	4	5	2	3	7	3	27	18	42	3	45
Total	138	121	122	212	179	179	228	152	169	218	187	138	1,075	968	1,966	77	2,043

ORDER TWO—CIRCULATORY.																	
Congestion	1	4	1	6	7	5	4	...	2	1	4	7	20	22	40	2	42
Embolism	1	...	1	...	...	...	...	...	...	1	1	...	2	2	4	...	4
Epistaxis	...	...	...	1	1	...	...	...	...	...	1	...	1	2	3	...	3
Heart disease	68	57	46	88	70	87	83	59	71	66	54	59	461	347	786	22	808
Hemorrhage	...	...	2	2	...	...	1	1	3	1	1	3	2	12	14	...	14
Total	70	61	50	97	78	92	88	60	76	69	61	69	486	385	847	24	871
ORDER THREE—RESPIRATORY.																	
Asthma	1	4	2	7	4	5	3	2	5	3	1	4	18	23	38	3	41
Bronchitis	13	11	15	32	57	55	47	21	17	10	5	8	125	166	272	19	291
Catarrh	...	...	...	...	...	...	3	1	...	...	2	...	2	4	6	...	6
Glottis, œdema	...	1	1	...	...	...	1	...	...	...	...	...	2	1	3	...	3
Hæmoptysis	1	...	3	3	5	4	3	6	4	6	6	8	27	22	46	3	49
Hydrothorax	2	...	1	1	...	...	...	...	...	...	...	1	3	2	4	1	5
Laryngitis	4	2	4	2	2	8	3	...	1	1	1	1	17	12	28	1	29
Lungs, abscess	2	...	...	1	3	1	1	1	...	2	...	1	8	4	11	1	12
Lungs, congestion	4	7	7	13	17	24	16	6	4	7	5	3	59	54	109	4	113
Lungs, disease	2	3	1	...	...	...	...	...	...	4	3	1	7	7	14	...	14
Pharyngitis	...	1	...	...	...	1	...	...	...	...	1	...	2	1	3	...	3
Pleuritis	1	1	2	5	1	2	1	4	1	1	...	1	10	10	20	...	20
Pneumonitis	51	99	114	263	334	314	287	138	54	31	17	19	981	740	1,653	68	1,721
Pneumonitis, broncho	...	...	...	2	...	5	...	...	...	...	...	...	2	5	7	...	7
Pneumonitis, pleuro	...	...	...	7	4	7	...	...	...	...	...	...	10	8	18	...	18
Pneumonitis, typho	1	7	3	9	8	2	...	...	...	1	...	2	21	12	31	2	33
Total	82	136	153	345	435	428	365	179	86	66	41	49	1,294	1,071	2,263	102	2,365
ORDER FOUR—DIGESTIVE.																	
Bowels, catarrh	2	1	1	1	2	...	...	...	...	6	2	2	12	5	17	...	17
Bowels, congestion	5	5	2	15	5	5	8	8	3	3	8	5	36	36	67	5	72
Bowels, disease	...	...	...	...	...	...	...	...	...	...	6	...	3	3	6	...	6
Bowels, hemorrhage	3	...	...	1	...	1	...	...	...	2	2	2	7	4	11	...	11
Bowels, obstruction	5	4	6	6	1	5	1	2	2	5	5	3	31	14	43	2	45
Bowels, ulceration	1	3	2	3	3	...	2	3	1	3	3	1	11	14	24	1	25
Colic	1	...	...	...	2	...	...	...	1	...	1	...	2	3	5	...	5
Colitis	1	...	...	...	...	...	...	...	...	5	2	1	5	4	9	...	9
Dyspepsia	3	...	1	1	2	1	1	1	...	4	...	2	7	9	16	...	16
Enteritis	21	11	10	9	8	8	16	10	12	24	38	32	116	83	193	6	199
Gall stones	...	2	1	...	...	...	1	...	...	...	2	...	4	2	6	...	6
Gastritis	5	11	8	8	14	7	15	10	14	8	9	7	52	64	114	2	116
Gastro-enteritis	5	3	2	...	1	4	4	...	2	7	6	7	18	23	40	1	41
Hepatitis	6	3	7	5	5	4	5	3	2	3	5	3	24	27	49	2	51
Hernia	...	...	1	1	1	2	3	4	3	3	1	1	12	8	20	...	20
Intussusception	3	6	1	3	4	1	2	2	3	3	3	6	15	22	34	3	37
Jaundice	...	3	2	3	2	2	5	3	5	...	2	3	18	12	30	...	30

TABLE B—Continued.

Causes of Death for the Year Ending September 30, 1888.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
Order Four—Digestive—Continued.																	
Liver, abscess	1	2	5	3	...	...	2	1	1	1	2	...	11	7	18	...	18
Liver, cirrhosis	4	3	4	5	7	6	3	1	3	...	3	1	29	11	38	2	40
Liver, congestion	2	...	...	2	1	1	1	4	3	2	...	2	9	9	18	...	18
Liver, disease	2	3	2	3	1	2	5	2	4	3	3	1	16	15	29	2	31
Liver, schlerosis	1	...	...	...	...	...	...	...	...	...	1	2	2	2	4	...	4
Oesophagus, stricture	...	...	1	...	...	...	...	...	...	1	...	...	2	...	2	...	2
Peritonitis	15	9	14	20	14	23	18	14	22	25	5	12	62	129	182	9	191
Splenitis	...	1	...	...	...	...	...	...	...	...	1	1	1	2	3	...	3
Stomach, catarrh	1	1	...	1	...	...	...	...	...	...	...	...	2	1	3	...	3
Stomach, congestion	6	7	4	6	3	5	3	5	2	3	6	5	25	30	50	5	55
Stomach, disease	1	...	...	3	2	3	...	...	...	3	2	2	11	5	16	...	16
Stomach, ulceration	3	4	5	3	3	2	1	4	4	4	2	1	17	19	35	1	36
Stomatitis	...	...	...	4	...	1	2	1	1	...	1	2	6	6	12	...	12
Tonsilitis	2	3	1	2	1	1	2	1	..	2	1	2	12	6	18	...	18
Tiphlitis	1	3	1	1	...	1	...	2	2	1	...	4	7	9	16	...	16
Total	100	88	81	109	82	85	100	81	90	121	122	110	585	584	1,128	41	1,169
Order Five—Urinary.																	
Albuminurea	...	2	2	2	1	1	6	5	4	3	1	...	16	11	27	...	27
Cystitis	6	3	3	6	3	4	5	9	...	7	5	2	46	7	52	1	53
Diabetes	7	6	3	6	5	2	7	7	3	...	4	1	27	24	50	1	51
Kidney, disease	2	2	1	5	2	2	4	2	...	2	1	6	21	8	28	1	29
Nephria	13	8	12	20	17	14	8	10	16	9	15	17	100	59	152	7	159
Nephritis	3	4	7	10	7	5	13	4	6	2	5	2	41	27	66	2	68
Uræmia	2	2	6	1	10	6	5	4	1	2	9	2	29	21	49	1	50
Urethra, stricture	...	...	...	...	..	...	...	...	...	...	...	1	1	...	1	...	1
Urine, suppression	...	...	...	1	...	...	...	...	...	1	...	1	3	...	3	...	3
Total	33	27	34	51	45	34	48	41	30	26	40	32	284	157	428	13	441

TABLE B—Continued.

Causes of Death for the Year Ending September 30, 1888.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER SIX—GENERATIVE.																	
Chlorosis	...	...	...	...	...	...	2	...	...	...	...	...	...	2	2	...	2
Metritis	...	...	...	2	...	2	1	1	1	...	...	...	...	7	6	1	7
Prostatitis	1	...	...	...	2	2	1	...	...	...	...	...	6	...	6	...	6
Tumor, ovarian	1	2	1	1	...	...	...	...	3	2	...	1	...	11	11	...	11
Total	2	2	1	3	2	4	4	1	4	2	...	1	6	20	25	1	26
ORDER EIGHT—INTEGUMENTARY.																	
Abscess	9	4	3	4	4	2	3	1	2	4	8	3	20	27	46	1	47
Total	9	4	3	4	4	2	3	1	2	4	8	3	20	27	46	1	47
ORDER NINE—MISCELLANEOUS.																	
Adenitis	...	...	...	...	...	...	1	...	...	1	...	...	1	1	2	...	2
Cellulitis	...	...	...	2	2	...	...	...	...	...	...	1	2	3	5	...	5
Otitis Media	...	...	...	1	...	2	...	2	1	...	...	...	2	4	6	...	6
Tumor	2	1	3	...	4	2	3	3	...	...	...	3	6	15	20	1	21
Total	2	1	3	3	6	4	4	5	1	1	...	4	11	23	33	1	34
Total local diseases	436	440	447	824	831	828	840	520	458	507	459	406	3,761	3,235	6,736	260	6,996

TABLE B—Continued.

Causes of Death for the Year Ending September 30, 1888.

CLASS FOUR—DEVELOPMENTAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—CHILDREN.																	
Atelectasis	...	...	...	...	...	...	...	...	1	...	...	1	1	1	2	...	2
Birth, injuries	1	1	3	2	3	3	...	...	...	1	3	1	13	5	18	...	18
Birth, premature	19	18	9	27	19	12	11	12	14	22	13	18	100	94	193	1	194
Cyanosis	4	5	4	14	6	10	3	2	2	4	8	4	27	49	63	3	66
Dentition	1	2	4	3	...	...	...	...	2	...	1	...	2	11	13	...	13
Hemorrhage, umbilical	...	...	...	3	...	...	...	...	1	...	...	...	3	1	1	2	4
Malformation	1	1	2	...	...	...	2	1	3	3	3	1	9	8	15	2	17
Malnutrition	3	...	...	...	...	1	...	...	...	1	2	1	2	6	8	...	8
Total	29	27	22	49	28	26	16	15	23	31	30	26	157	165	314	8	322
ORDER TWO—WOMEN.																	
Amenorrhoea	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...	1
Climacteria	...	...	...	...	...	...	...	...	...	...	2	...	...	2	2	...	2
Parturition	3	3	4	4	3	1	2	3	1	...	1	2	...	27	25	2	27
Placenta previa	...	1	...	...	...	1	1	...	1	...	1	...	...	5	4	1	5
Post partum hem.	3	...	2	...	3	...	1	...	1	2	3	2	...	17	17	...	17
Puerperal eclampsia	3	1	3	3	8	5	4	...	...	1	3	3	...	34	34	...	34
Uterus disease	1	1	2	2	1	...	...	...	...	2	...	...	...	9	9	...	9
Total	10	6	12	9	15	7	8	3	3	5	10	7	...	95	92	3	95
ORDER THREE—OLD AGE.																	
Old age	39	35	30	45	46	51	57	39	35	55	38	36	220	286	481	25	506
Total	39	35	30	45	46	51	57	39	35	55	38	36	220	286	481	25	506
ORDER FOUR—NUTRITION.																	
Asthenia	...	2	...	1	1	2	...	...	...	2	1	4	6	7	12	1	13
Debility	7	15	15	13	16	10	18	11	10	14	17	12	71	87	149	9	158
Exhaustion	8	2	11	8	7	9	13	5	7	11	10	11	57	45	101	1	102
Marasmus	13	3	4	5	2	1	8	5	5	16	17	18	50	47	92	5	97
Total	28	22	30	27	26	22	39	21	22	43	45	45	184	186	354	16	370
Total developmental, diseases	106	90	94	130	115	106	120	78	83	134	123	114	561	732	1,241	52	1,293

ORDER ONE—ACCIDENTS.																	
Accident	51	35	23	41	27	25	21	28	21	24	23	20	253	86	326	13	339
Accident, railroad	21	10	11	10	8	7	12	5	12	11	9	12	121	7	127	1	128
Boiler explosion	...	...	...	...	1	2	...	...	...	...	...	4	7	....	7	....	7
Burn	8	2	2	11	8	5	7	2	...	5	...	2	21	31	52	....	52
Drowning	3	1	3	...	1	2	2	9	14	11	3	...	40	9	44	5	49
Insolation	...	...	...	...	...	...	...	...	1	3	7	...	11	....	11	....	11
Lightning	...	...	...	...	...	...	1	1	...	1	..	1	4	....	4	....	4
Poison	9	3	2	5	5	3	1	8	5	6	1	4	29	23	52	....	52
Shooting	6	3	4	4	3	7	5	4	4	4	2	7	50	3	48	5	53
Total	98	54	45	71	53	51	49	57	57	65	45	50	536	159	671	24	695
ORDER THREE—HOMICIDE.																	
Homicide	3	...	...	1	1	...	5	1	1	...	2	1	15	....	15	....	15
Total	3	...	...	1	1	...	5	1	1	...	2	1	15	....	15	....	15
ORDER FOUR—SUICIDE.																	
Drowning	1	...	...	...	...	2	...	...	...	...	...	...	....	3	3	....	3
Hanging	...	...	...	1	1	1	5	...	2	2	1	1	11	3	14	....	14
Poison	2	2	1	2	2	...	2	3	5	7	2	2	15	15	30	....	30
Shooting	2	...	...	...	3	2	...	2	2	2	1	...	11	3	13	1	14
Suicide	5	2	3	3	1	3	4	2	2	7	3	5	24	16	40	....	40
Total	10	4	4	6	7	8	11	7	11	18	7	8	61	40	100	1	101
Total violence	111	58	49	78	61	59	65	65	69	83	54	59	612	199	786	25	811
Unknown	41	24	29	86	47	56	46	46	33	38	39	34	296	244	515	25	540
RECAPIULATION.																	
Zymotic Diseases	538	358	267	328	265	256	283	213	256	623	664	537	2,286	2,302	4,453	135	4,588
Constitutional Diseases	260	211	198	248	244	302	317	248	203	274	216	162	1,232	1,651	2,711	172	2,883
Local Diseases	436	440	447	824	831	828	840	520	458	507	459	406	3,761	3,235	6,736	260	6,996
Developmental Diseases	106	90	94	130	115	106	120	78	83	134	123	114	561	732	1,241	52	1,293
Violence	111	58	49	78	61	59	65	65	69	83	54	59	612	199	786	25	811
Unknown	41	24	29	86	47	56	46	46	33	38	39	34	296	244	515	25	540
Total	1,492	1,181	1,084	1,694	1,563	1,628	1,671	1,170	1,102	1,659	1,555	1,312	8,748	8,363	16,442	669	17,111
Still births	...	..	...	...	...	...	...	...	..	...	...	..	541	371	....	....	912
Grand total	...	...	...	..	...	...	..	...	...	...	...	...	9,286	8,734	....	....	18,023

TABLE C.

CAUSES OF DEATH.

Nationality and Social Relations for the Year Ending September 30, 1888.

CLASS ONE.—ZYMOTIC DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widowers.	Widows.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER ONE—MIASMATIC.																	
Anthrax	3	1	3	1	...	...	...	...	...	...	3	1	...	...	...	...	4
Chill, congestive	17	16	14	12	3	3	...	1	13	5	3	8	...	3	1	...	33
Cholera infantum	462	350	460	342	1	7	1	1	462	350	...	...	...	...	...	...	812
Cholera morbus	13	15	9	12	4	3	...	...	4	5	7	4	2	4	...	2	28
Croup	109	111	106	107	2	3	1	1	107	111	2	...	...	...	...	...	220
Diarrhoea	91	55	86	48	3	5	2	2	51	34	33	14	6	6	1	1	146
Diphtheria	166	186	162	180	3	6	1	...	163	182	2	2	...	2	1	...	352
Dysentery	162	153	152	138	7	13	3	2	116	87	31	36	12	29	3	1	315
Entero-colitis	46	47	43	47	3	...	...	...	43	45	2	2	1	...	...	...	93
Erysipelas	46	29	41	26	4	3	1	...	14	12	24	11	7	6	1	...	75
Fever, bilious	4	...	3	...	...	...	1	...	2	...	2	...	...	...	...	...	4
Fever, catarrhal	15	18	15	18	...	...	...	...	12	11	2	3	1	4	...	...	33
Fever, cerebro spinal	71	67	70	64	1	2	...	1	62	56	8	11	1	...	...	...	138
Fever, congestive	6	7	5	7	1	...	...	...	5	1	1	3	...	3	...	...	13
Fever, continued	2	2	2	2	...	...	...	...	...	2	1	...	1	...	...	...	4
Fever, intermittent	3	4	2	4	1	...	...	...	1	1	2	3	...	...	...	...	7
Fever, malarial	48	69	40	65	5	3	3	1	30	38	14	22	2	9	2	...	117
Fever, pernicious	3	4	3	2	...	1	...	1	2	2	1	2	...	...	...	...	7
Fever, puerperal	...	76	...	68	...	8	...	...	...	1	...	74	...	1	...	...	76

Fever, remittent	19	25	14	24	5	1	. . .	. . .	7	20	11	4	1	1	. . .	. . .	44
Fever, rheumatic	. . .	2	. . .	2	. . .	. . .	. . .	. . .	. . .	2	. . .	. . .	. . .	. . .	. . .	. . .	2
Fever, scarlet	75	87	71	83	3	4	1	. . .	74	84	1	3	. . .	. . .	. . .	. . .	162
Fever, typhoid	452	426	408	392	38	28	11	6	235	225	180	165	19	28	18	8	878
Fever, typhoid malarial	39	50	34	46	4	4	1	. . .	15	24	21	20	2	6	1	. . .	89
Flux	4	6	3	5	. . .	. . .	1	1	4	4	. . .	1	. . .	1	. . .	. . .	10
Gangrene	24	19	21	16	3	3	. . .	. . .	6	7	12	5	6	5	. . .	2	43
Glanders	1	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	. . .	1	. . .	. . .	. . .	. . .	. . .	41
Measles	121	143	119	142	1	1	1	. . .	110	114	9	27	. .	2	2	. . .	264
Milk sickness	3	3	3	3	. . .	. . .	. . .	. . .	2	3	1	. . .	. . .	. . .	. . .	. . .	6
Mumps	. . .	2	. . .	2	. . .	. . .	. . .	. . .	. . .	2	. . .	. . .	. . .	. . .	. . .	. . .	2
Peritonitis puerperal	. . .	29	. . .	27	. . .	2	. . .	. . .	. . .	7	. . .	22	. . .	. . .	. . .	. . .	29
Pertussis	65	77	65	77	. . .	. . .	. . .	. . .	65	76	. . .	1	. . .	. . .	. . .	. . .	142
Pyæmia	63	69	53	61	10	6	. . .	2	28	22	25	39	7	6	3	2	132
Septæmia puerperal	. . .	15	. . .	14	. . .	1	. . .	. . .	. . .	1	. . .	14	. . .	. . .	. . .	. . .	15
Total	2,133	2,163	2,003	2,037	102	107	28	19	1,633	1,534	399	497	68	116	33	16	4,296
ORDER TWO—ENTHETIC.																	
Syphilis, acquired	4	7	4	7	. . .	. . .	. .	. . .	1	3	2	1	. . .	3	1	. . .	11
Syphilis, congenital	11	1	14	1	. . .	. . .	. . .	. . .	11	1	. . .	. . .	. . .	. . .	. . .	. . .	12
Total	15	8	15	8	. . .	. . .	. . .	. . .	12	4	2	1	. .	3	1	. . .	23
ORDER THREE—DIETIC.																	
Delirium tremens	5	. . .	4	. . .	1	. . .	. . .	. . .	1	. . .	3	. . .	1	. .	. . .	. .	5
Eczema	2	2	2	2	. . .	. . .	. . .	. . .	2	2	. . .	. . .	. . .	. .	. . .	. . .	4
Inanition	104	120	102	118	1	2	1	. . .	96	111	6	5	2	4	. . .	. . .	224
Intemperance	24	4	18	4	5	. . .	1	. . .	6	. . .	13	2	3	2	2	. . .	28
Purpura	3	1	3	1	. . .	. . .	. . .	. . .	3	1	. . .	. . .	. . .	. . .	. .	. . .	4
Urticaria	. . .	1	. . .	1	. . .	. . .	. . .	. . .	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	1
Total	138	128	129	126	7	2	2	. . .	108	115	22	7	6	6	2	. . .	266
ORDER FOUR—PARASITIC.																	
Aphtha	. . .	3	. . .	3	. . .	. . .	. . .	. . .	. . .	3	. . .	. . .	. . .	. . .	. . .	. . .	3
Total	. . .	3	. . .	3	. . .	. . .	. . .	. .	. .	3	. . .	. .	. . .	. . .	. . .	. . .	3
Total zymotic diseases	2,286	2,302	2,147	2,174	109	109	30	19	1,753	1,656	423	505	74	125	36	16	4,588

TABLE C—Continued.

CLASS TWO.—CONSTITUTIONAL.	Totals.		Nationality.						Social Relations.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower.	Widow.	Not Reported.		Totals.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
Order One—Diathetic.																	
Anæmia	7	26	6	25	1	1	...	...	1	7	4	18	2	1	...	...	33
Cancer	116	212	89	167	23	38	4	7	13	15	78	122	15	66	10	9	328
Dropsy	94	91	70	74	23	14	1	3	22	16	46	47	19	27	7	1	185
Goitre	1	1	1	1	...	...	...	...	...	...	1	1	...	...	...	...	2
Leucocythæmia	...	3	...	3	...	...	...	...	...	...	...	3	...	...	...	...	3
Lymphademoma	3	1	3	1	...	...	...	...	3	...	...	1	...	...	...	...	4
Rheumatism	44	55	37	47	5	5	2	8	16	17	22	23	3	12	3	3	99
Total	265	389	206	318	52	58	7	13	55	55	151	215	39	106	20	13	654
Order Two—Tubercular.																	
Abscess, psoas	...	3	...	1	...	1	...	1	...	...	...	3	...	...	...	...	3
Hydrocephalus	31	20	31	19	...	1	...	...	31	19	...	1	...	...	...	...	51
Morbus, Coxarius	4	1	4	1	...	...	...	...	4	...	...	...	...	1	...	...	57
Phthisis	863	1180	746	1087	98	72	19	21	379	414	391	578	54	150	39	38	5
Scrofula	21	22	21	22	...	...	...	...	18	20	3	2	...	...	...	...	2,043
Tabes, mesenterica	14	13	14	13	...	...	...	...	12	10	2	3	...	...	...	...	43
Meningitis, tubercular	34	23	33	21	1	2	...	...	30	21	3	2	...	...	1	...	27
Total	967	1,262	849	1,164	99	76	19	22	474	484	399	589	54	151	40	38	2,229
Total constitutional diseases	1,232	1,651	1,055	1,482	151	134	26	35	529	539	550	804	93	257	60	51	2,883

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	TOTALS.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower.	Widow.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER ONE—NERVOUS SYSTEM.																	
Apoplexy	147	113	115	87	29	20	3	6	25	13	84	52	34	45	4	3	260
Brain, abscess	8	9	8	8	...	1	...	...	5	5	3	4	...	...	...	...	17
Brain, congestion	113	137	102	133	10	3	1	1	82	108	25	21	5	7	1	1	250
Brain, disease	26	14	21	13	4	1	1	...	13	6	11	6	1	2	1	...	40
Brain, fever	49	39	47	38	1	1	1	...	46	35	3	3	...	1	...	...	88
Brain, softening	45	25	38	19	6	5	1	1	9	4	27	8	8	13	1	...	70
Brain, tumor	4	1	2	1	1	...	1	...	3	...	...	1	1	...	...	...	5
Cerebritis	68	50	67	48	1	2	...	...	52	35	11	9	5	6	...	...	118
Chorea	...	3	...	3	...	...	...	...	...	3	...	...	...	...	...	...	3
Convulsions	164	119	154	113	9	4	1	2	159	111	1	3	1	1	3	4	283
Epilepsy	23	14	21	13	2	...	...	1	17	11	4	3	2	...	...	...	37
Insanity	4	9	3	8	1	1	...	...	2	3	2	5	...	1	...	...	13
Locomotor-ataxia	3	3	2	3	1	...	...	...	...	1	1	...	2	2	...	...	6
Meningitis	145	157	142	151	3	5	...	1	132	138	10	16	...	2	3	1	302
Meningitis, cerebral	24	24	24	24	...	...	...	...	22	21	1	2	...	1	1	...	48
Meningitis, spinal	14	13	12	13	1	...	1	...	11	13	1	...	...	...	2	...	27
Muscular atrophy	1	1	1	...	...	1	...	...	1	1	...	...	...	...	...	...	2
Myelitis	2	1	2	1	...	...	...	...	1	1	1	...	...	...	...	...	3
Nervous prostration	15	18	11	16	3	2	1	...	4	2	7	12	3	3	1	1	33
Neuralgia	4	5	2	4	1	1	1	...	...	1	3	2	1	2	...	...	9
Paralysis	162	177	129	148	22	19	11	10	19	20	100	66	32	73	11	18	339
Rachitis	3	...	3	...	...	...	...	...	3	...	...	...	...	...	...	...	3
Spina bifida	5	5	5	5	...	...	...	...	5	5	...	...	...	...	...	...	10
Spine disease	19	13	17	13	2	...	...	...	13	8	5	5	1	...	...	...	32
Tetanus	27	18	25	17	1	1	1	...	17	11	9	7	1	...	...	...	45
Total	1,075	968	953	879	98	67	24	22	641	556	309	225	97	159	28	28	2,043

TABLE C—Continued.

CLASS THREE.—LOCAL DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower.	Widow.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER TWO—CIRCULATORY.																	
Congestion	20	22	17	21	3	1	...	...	13	8	5	9	1	4	1	1	42
Embolism	2	2	2	2	...	...	...	...	1	...	...	2	...	...	1	...	4
Epistoxis	1	2	1	2	...	...	...	...	1	1	...	1	...	...	...	...	3
Heart disease	461	347	361	295	84	44	16	8	95	66	277	172	74	98	15	11	808
Hemorrhage	2	12	1	12	1	...	...	...	1	2	1	8	...	1	..	1	14
Total	486	385	382	332	88	45	16	8	111	77	283	192	75	103	17	13	871
ORDER THREE—RESPIRATORY.																	
Asthma	18	23	11	16	6	6	1	1	4	1	8	11	5	10	1	1	41
Bronchitis	125	166	113	150	10	13	2	3	78	92	29	29	16	41	2	4	291
Catarrh	2	4	2	4	...	...	...	...	...	3	2	...	...	1	...	...	6
Glottis Oedema	2	1	1	1	1	...	...	...	1	1	1	...	...	...	...	...	3
Haemoptysis	27	22	21	17	5	3	1	2	10	7	12	14	4	1	1	...	49
Hydrothorax	3	2	2	2	1	...	...	...	2	1	1	1	...	...	...	...	5
Laryngitis	17	12	16	11	1	...	...	1	15	10	2	1	...	1	...	...	29
Lungs, abscess	8	4	5	4	3	...	...	...	2	3	6	1	...	...	...	...	12
Lungs, congestion	59	54	47	49	10	5	2	...	35	30	20	15	2	9	2	...	113
Lungs, disease	7	7	6	6	1	1	...	...	2	3	5	1	...	3	...	...	14
Pharyngitis	2	1	2	1	...	...	...	...	2	1	...	...	...	...	..	...	3
Pleuritis	10	10	7	8	3	2	...	...	1	2	7	3	2	5	...	...	20
Pneumonitis	981	740	887	664	77	58	17	18	451	302	403	274	105	141	22	23	1,721
Pneumonitis, broncho-	2	5	1	5	...	..	1	...	1	2	...	2	...	1	1	...	7
Pneumonitis, pleuro-	10	8	9	6	...	2	1	...	3	4	5	3	1	1	1	...	18
Pneumonitis, typho-	21	12	19	11	1	1	1	...	8	7	12	3	1	2	...	...	33
Total	1,294	1,071	1,149	955	119	91	26	25	615	469	513	358	136	216	30	28	2,365

ORDER FOUR—DIGESTIVE.																	
Bowels, catarrh	12	5	12	5	...	...	...	...	10	4	2	1	...	...	...	...	17
Bowels, congestion	36	36	36	36	...	...	...	...	26	21	8	8	1	7	1	...	72
Bowels, disease	3	3	1	2	...	...	2	...	1	3	...	...	...	...	2	...	6
Bowels, hemorrhage	7	4	7	4	...	...	...	...	4	3	2	1	1	...	...	...	11
Bowels, obstruction	31	14	30	9	...	4	1	1	19	5	10	6	2	2	...	1	45
Bowels, ulceration	11	14	9	12	2	1	...	1	3	3	8	8	...	3	...	...	25
Colic	2	3	2	3	...	...	...	...	1	2	1	...	...	1	...	...	5
Colitis	5	4	5	4	...	...	...	...	4	2	...	1	1	1	...	...	9
Dyspepsia	7	9	4	9	2	...	1	...	2	2	5	5	...	2	...	...	16
Enteritis	116	83	105	75	5	5	6	3	82	62	23	11	7	10	4	...	199
Gall stones	4	2	2	2	1	...	1	...	1	...	1	2	2	...	...	...	6
Gastritis	52	64	43	55	6	8	3	1	27	22	20	28	4	14	1	...	116
Gastro enteritis	18	23	18	23	...	...	...	...	11	11	6	8	1	4	...	...	41
Hepatitis	24	27	20	21	3	5	1	1	3	7	18	14	3	5	...	1	51
Hernia	12	8	10	7	2	1	...	...	3	2	9	2	...	4	...	...	20
Intussusception	15	22	13	17	2	4	...	1	5	9	8	5	1	7	1	1	37
Jaundice	18	12	13	11	2	1	3	...	9	3	5	6	1	3	3	...	30
Liver, abscess	11	7	8	7	2	...	1	...	5	3	5	1	1	3	...	...	18
Liver, cirrhosis	29	11	23	8	3	3	3	...	5	1	20	5	4	5	...	...	40
Liver, congestion	9	9	9	6	...	3	...	...	2	2	6	5	1	2	...	...	18
Liver, disease	16	15	16	12	...	3	...	...	6	2	6	8	...	5	4	...	31
Liver, schlerosis	2	2	2	2	...	...	...	...	1	...	1	1	...	1	...	...	4
Oesophagus stricture	2	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	2
Peritonitis	62	129	56	115	4	16	2	4	38	36	19	78	4	11	1	4	191
Splenitis	1	2	1	1	...	1	...	...	...	...	1	...	...	2	...	...	3
Stomach, catarrh	2	1	2	1	...	...	...	...	...	...	2	1	...	...	...	...	3
Stomach, congestion	25	30	25	30	...	...	...	...	18	10	6	13	1	6	...	1	55
Stomach, disease	11	5	11	5	...	...	...	...	2	3	6	2	3	...	...	...	16
Stomach, ulceration	17	19	16	19	1	...	...	...	7	4	10	13	...	1	...	1	36
Stomatitis	6	6	6	5	1	...	...	...	5	4	1	2	...	...	...	...	12
Tonsilitis	12	6	9	6	3	...	...	...	11	6	...	...	...	...	1	...	18
Tiphlitis	7	9	7	8	...	1	...	...	3	4	4	4	...	1	...	...	16
Total	585	584	521	521	40	51	24	12	314	236	215	239	38	100	18	9	1,169
ORDER FIVE—URINARY.																	
Album nurea	16	11	13	8	2	2	1	1	5	3	9	5	2	3	...	...	27
Cystitis	46	7	39	6	6	1	1	...	1	1	29	3	15	3	1	...	53
Diabetes	27	24	22	20	5	3	...	1	10	5	13	11	3	7	1	1	51
Kidney, disease	21	8	19	7	1	...	1	1	6	3	8	4	4	1	3	...	29
Nephria	100	59	81	49	17	8	2	2	20	20	60	24	15	13	5	2	159
Nephritis	41	27	38	25	2	2	1	...	16	12	21	9	3	6	1	...	68
Uremia	29	21	23	19	5	2	1	...	8	7	15	11	5	3	1	.	50
Urethra, stricture	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Urine, suppression	3	...	3	...	...	...	...	...	2	...	1	...	...	...	...	...	3
Total	284	157	239	134	38	18	7	5	68	51	157	67	47	36	12	3	441

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	Totals.		Nationality.						Social Relations.									
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower	Widow.	Not Reported.		Totals.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
Order Six—Generative.																	
Chlorosis	...	2	...	2	...	...	...	...	...	2	...	...	...	...	...	...	2
Metritis	...	7	...	7	...	...	...	...	...	...	...	6	...	1	...	...	7
Prostatitis	6	...	6	...	...	...	...	...	...	...	5	...	1	...	...	...	6
Tumor, ovarian	...	11	...	9	...	2	...	...	...	3	...	6	...	2	...	...	11
Total	6	20	6	18	...	2	...	...	...	5	5	12	1	3	...	...	26
Order Eight—Integumentary.																	
Abscess	20	27	15	23	4	3	1	1	7	12	11	13	2	2	...	...	47
Total	20	27	15	23	4	3	1	1	7	12	11	13	2	2	...	...	47
Order Nine—Miscellaneous.																	
Adenitis	1	1	1	1	...	...	...	...	...	1	1	...	...	...	...	...	...
Cellulitis	2	3	2	3	...	...	...	...	2	1	...	2	...	...	...	...	...
Otitis Media	2	4	2	4	...	...	...	...	2	4	...	...	...	...	...	...	...
Tumor	6	15	5	11	1	4	...	...	4	3	2	9	...	3	...	...	...
Total	11	23	10	19	1	4	...	...	8	9	3	11	...	3	...	...	34
Total local diseases	3,761	3,235	3,275	2,881	388	281	98	73	1,764	1,415	1,496	1,117	396	622	105	81	6,996

TABLE C—Continued.

CLASS FOUR—DEVELOPMENTAL DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American. M.	American. F.	Foreign. M.	Foreign. F.	Not Reported. M.	Not Reported. F.	Single. M.	Single. F.	Married. M.	Married. F.	Widower.	Widow.	Not Reported. M.	Not Reported. F.	Total.
ORDER ONE—CHILDREN.																	
Atelectasis	1	1	1	1	...	...	...	...	1	1	...	...	...	...	...	...	2
Birth, injury	13	5	13	5	...	...	...	...	13	5	...	...	...	...	...	...	18
Birth, premature	100	94	100	94	...	...	...	...	100	94	...	...	...	...	...	...	194
Cyanosis	27	39	27	39	...	...	...	...	27	39	...	...	...	...	...	...	66
Dentition	2	11	2	11	...	...	...	...	2	11	...	...	...	...	...	...	13
Hemorrhage, umbilical	3	1	3	1	...	...	...	...	3	1	...	...	...	...	...	...	4
Malformation	9	8	9	8	...	...	...	...	9	8	...	...	...	...	...	...	17
Malnutrition	2	6	2	6	...	...	...	...	2	6	...	...	...	...	...	...	8
Total	157	165	157	165	...	...	...	...	157	165	...	...	...	...	...	...	322
ORDER TWO—WOMEN.																	
Amenorrhœa	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1
Climacteria	...	2	...	2	...	...	...	...	...	1	...	1	...	...	...	...	2
Parturition	...	27	...	25	...	2	...	...	...	...	...	27	...	...	...	...	27
Placenta previa	...	5	...	5	...	...	...	...	...	...	...	5	...	...	...	...	5
Post partum hemorrhage	...	17	...	16	...	1	...	...	...	...	...	16	...	1	...	...	17
Puerperal eclampsia	...	34	...	30	...	4	...	...	...	...	...	34	...	...	...	...	34
Uterus disease	...	9	...	5	...	1	...	3	...	1	...	7	...	...	...	1	9
Total	...	95	...	84	...	8	...	3	...	3	...	90	...	1	...	1	95
ORDER THREE—OLD AGE.																	
Old age	220	286	153	202	55	66	12	18	19	14	92	45	92	196	17	31	506
Total	220	286	153	202	55	66	12	18	19	14	92	45	92	196	17	31	506

TABLE C—Continued.

CLASS FOUR—DEVELOPMENTAL DISEASES.	TOTALS.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower.	Widow.	Not Reported.		Totals.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER FOUR—NUTRITION.																	
Asthenia	6	7	4	3	2	3	. . .	1	. . .	2	4	2	2	2	. . .	1	13
Debility	71	87	56	76	14	10	1	1	22	27	29	19	15	39	5	2	158
Exhaustion	57	45	48	42	6	1	3	2	36	29	15	8	4	6	2	2	102
Marasmus	50	47	46	44	4	3	. . .	. . .	44	39	3	3	2	3	1	2	97
Total	184	186	154	165	26	17	4	4	102	97	51	32	23	50	8	7	370
Total developmental diseases	561	732	464	616	81	91	16	25	278	279	143	167	115	247	25	39	1,236

TABLE C—Continued.

CLASS FIVE—VIOLENCE.	Totals.		Nationality.						Social Relations.									
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower.	Widow.	Not Reported.		Totals.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
Order One—Accidents.																	
Accidents	253	86	205	77	34	4	14	5	107	42	106	26	18	14	22	4	339
Accidents, railroad	121	7	93	7	20	...	8	...	55	4	51	2	7	1	8	...	128
Boiler explosion	7	...	4	...	1	...	...	...	3	...	4	...	...	...	...	...	7
Burn	21	31	20	30	6	1	...	...	19	24	2	4	...	3	...	...	52
Drowning	40	9	34	6	6	2	...	1	28	6	8	1	3	2	1	...	49
Insolation	11	...	5	...	...	...	...	...	3	...	5	...	2	...	1	...	11
Lightning	4	...	4	...	...	...	...	...	1	...	3	...	...	...	...	...	4
Poison	29	23	24	22	4	1	1	...	13	13	12	7	4	3	...	...	52
Shooting	50	3	47	2	1	1	2	...	32	...	15	2	...	1	3	...	53
Total	536	159	436	144	75	9	25	6	261	89	206	42	34	24	35	4	695
Order Three—Homicide.																	
Homicide	15	...	12	...	3	...	...	...	5	...	10	...	...	...	...	...	15
Total	15	...	12	...	3	...	...	...	5	.	10	...	...	...	...	...	15

TABLE C—Continued.

CLASS FIVE—VIOLENCE.	Totals.		Nationality.						Social Relations.									
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower.	Widow.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
Order Four—Suicide.																	
Drowning	...	3	...	1	...	1	...	1	...	...	...	2	...	1	...	...	3
Hanging	11	3	7	3	3	...	1	...	4	2	7	1	...	...	...	...	14
Poison	15	15	11	13	3	2	1	...	4	8	8	5	3	1	...	1	30
Shooting	11	3	11	2	...	1	...		2	2	8	1		...	1	...	14
Suicide	24	16	23	13	1	2	...	1	10	6	10	7	2	2	2	1	40
Total	61	40	52	32	7	6	2	2	20	18	33	16	5	4	3	2	101
Total violence	612	199	500	176	85	15	27	8	286	107	249	58	39	28	38	6	811
Unknown	296	244	266	223	14	12	16	9	193	141	62	49	13	28	28	26	540
Total	296	244	266	223	14	12	16	9	193	141	62	49	13	28	28	26	540

TABLE C—Continued.

RECAPITULATION.

CLASSES.	TOTALS.		NATIONALITY.						SOCIAL RELATIONS.									
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widower.	Widow.	Not Reported.		Totals.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
Zymotic diseases	2,286	2,302	2,147	2.174	109	109	30	19	1,753	1,656	423	505	74	125	36	16	4,588
Constitutional diseases	1,232	1,651	1,055	1,482	151	134	26	35	529	539	550	804	93	257	60	51	2,883
Local diseases	3,761	3,235	3,275	2,881	388	281	98	73	1,764	1,415	1,496	1,117	396	622	105	81	6,996
Developmental diseases	561	732	464	616	81	91	16	25	278	279	143	167	115	247	25	39	1,293
Violence	612	199	500	176	85	15	27	8	296	107	249	58	39	28	38	6	811
Unknown	296	244	266	223	14	12	16	9	193	141	62	49	13	28	28	26	540
Grand total	8,748	8,363	7,707	7,552	828	642	213	169	4,803	4,137	2,923	2,700	730	1,307	292	219	17,111

NOTE.—Still births—Males, 541; Females, 371. Total, 912.

TAB

Causes of Death and Grouped Ages,

CLASS ONE—ZYMOTIC DISEASES.	Under 1		1 to 5		5 to 10		10 to 15		15 to 20		20 to 30		30 to 40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—MIASMATIC.														
Anthrax	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Chill, congestive	3	4	3	1	1	. .	3	. .	1	. .	3	2	. .	2
Cholera infantum	328	247	124	98	10	5	. .	. .	. .	. .	. .	. .	. .	. .
Cholera morbus	2	. .	. .	. .	1	. .	. .	1	. .	1	. .	3	1	. .
Croup	25	25	61	55	14	29	2	2	3	. .	2	. .	1	. .
Diarrhoea	31	24	13	6	. .	. .	. .	. .	3	1	. .	6	1	3
Diphtheria	15	15	70	71	59	64	15	18	1	8	2	4	1	1
Dysentery	26	14	54	34	14	14	6	4	5	7	5	9	3	6
Entero colitis	25	28	16	10	2	1	. .	. .	. .	1	. .	3	. .	1
Erysipelas	5	4	1	2	. .	1	. .	2	2	1	4	3	2	3
Fever, bilious	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .
Fever, catarrhal	8	6	3	5	. .	. .	. .	. .	. .	. .	1	3	. .	1
Fever, cerebro-spinal	12	11	20	18	17	6	4	9	6	10	3	6	3	4
Fever, congestive	1	. .	2	. .	. .	1	. .	. .	. .	. .	2	. .	. .	. .
Fever, continued	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Fever, intermittent	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	1	. .	. .
Fever, malarial	4	13	7	8	3	6	1	3	2	6	9	3	2	3
Fever, pernicious	. .	. .	. .	. .	. .	2	1	. .	1	. .	. .	1	1	. .
Fever, puerperal	. .	. .	. .	. .	. .	. .	. .	. .	. .	8	. .	48	. .	16
Fever, remittent	1	8	1	6	2	1	. .	3	2	2	1	1	1	. .
Fever, rheumatic	. .	1	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .
Fever, scarlet	8	10	47	44	11	23	3	2	1	3	3	3	. .	. .
Fever, typhoid	6	6	19	14	20	23	21	48	78	81	127	101	56	46
Fever, typho-malarial	. .	1	. .	6	2	2	3	3	4	9	10	8	4	6
Flux	1	2	2	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Gangrene	2	. .	1	2	. .	1	. .	1	. .	2	1	. .	. .	. .
Glanders	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Measles	34	31	52	40	9	15	5	9	6	9	5	12	5	12
Milk sickness	. .	. .	1	. .	. .	2	. .	. .	1	1	. .	. .	. .	. .
Mumps	. .	. .	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Peritonitis puerperal	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	13	. .	12
Pertussis	36	41	23	27	3	5	. .	2	2	. .	. .	2	1	. .
Pyaemia	6	6	2	2	3	3	5	2	4	6	4	20	7	10
Septaemia puerperal	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	7	. .	7
Total	579	498	524	455	171	204	69	110	122	159	183	259	89	134
ORDER TWO—ENTHETIC.														
Syphilis, acquired	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	. .	2
Syphilis, congenital	11	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	11	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	. .	2
ORDER THREE—DIETIC.														
Delirium tremens	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	2	. .
Eczema	2	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Inanition	88	99	7	10	. .	1	. .	. .	. .	. .	. .	. .	. .	1
Intemperance	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	2	. .	5	. .
Purpura	1	. .	1	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .
Urticaria	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	91	101	8	12	1	1	. .	. .	1	. .	3	. .	7	1
ORDER FOUR—PARASITIC.														
Aphtha	. .	3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	.	3	.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total Zymotic Diseases	681	603	532	467	172	205	69	110	123	159	186	262	96	137

LE D.

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for the Year Ending September 30, 1888.

40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Over 100		Not Rept'ed		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
. .	. .	1	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
1	1	1	1	1	3	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	17	16	33
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	462	350	812
1	1	1	. .	1	7	6	1	. .	1	. .	. .	. .	. .	. .	. .	13	15	38
. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	109	111	220
14	2	6	1	10	3	8	6	4	2	. .	. .	. .	. .	1	1	91	51	146
1	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	3	166	186	352
6	9	7	6	7	2	9	15	15	19	3	2	. .	1	2	11	162	153	315
. .	. .	. .	1	. .	1	. .	. .	2	. .	. .	. .	. .	. .	1	1	46	47	93
9	1	7	3	5	3	7	4	4	1	. .	1	. .	. .	. .	. .	46	29	75
1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	. . . .	4
1	. .	1	. .	. .	1	1	2	. .	. .	. .	. .	. .	. .	. .	. .	15	18	33
2	1	3	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	71	67	138
. .	1	. .	1	. .	2	. .	1	1	1	. .	. .	. .	. .	. .	. .	6	7	13
. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	2	2	4
. .	1	1	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	4	7
5	4	5	9	3	6	3	7	2	. .	. .	. .	. .	. .	2	1	48	69	117
. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	4	7
. .	4	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	76	76
. .	. .	3	1	4	1	2	. .	2	1	. .	. .	. .	. .	. .	1	19	25	44
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	2	2
1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	2	75	87	162
35	33	29	19	29	21	15	20	5	2	. .	. .	. .	. .	12	12	452	426	878
3	2	2	4	3	5	3	. .	3	2	. .	. .	. .	. .	2	2	39	50	89
. .	. .	. .	. .	. .	2	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	4	6	10
3	2	3	. .	5	3	5	5	2	1	. .	1	. .	. .	1	1	24	19	43
1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	1
. .	10	3	3	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	121	143	264
1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	3	6
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	2	2
. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	29	29
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	65	77	142
9	6	8	2	10	4	3	1	1	2	. .	. .	. .	. .	1	5	63	69	132
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	15	15
94	82	83	54	81	66	64	64	42	32	3	4	. .	1	29	41	2,133	2,163	4,296
1	2	3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	7	11
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	11	1	12
1	2	3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	15	8	23
. .	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	5	. . . .	5
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	2	4
1	2	2	. .	1	2	4	4	1	1	. .	. .	. .	. .	. .	. .	101	120	224
7	2	4	1	4	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	24	4	28
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
8	4	7	1	6	3	5	4	1	1	. .	.	. .	. .	. .	. .	138	128	266
. .	. .	. .	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	3	3
. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	3	3
103	88	93	55	87	69	69	68	43	33	3	4	. .	1	29	41	2,286	2,302	4,588

TABLE D—

CLASS TWO.—CONSTITUTIONAL DISEASES.	Under 1		1 to 5		5 to 10		10 to 15		15 to 20		20 to 30		30 to 40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Order One—Diathetic.														
Anæmia	. .	. .	. .	1	. .	. .	. .	1	1	3	. .	7	. .	3
Cancer	. .	. .	1	1	. .	2	1	1	1	. .	. .	7	11	21
Dropsy	2	4	2	2	. .	2	5	2	1	1	3	8	4	7
Goitre	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Leucocythæmia	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	. .
Lymphadenoma	. .	. .	. .	. .	1	. .	1	. .	1	. .	. .	. .	. .	1
Rheumatism	2	2	. .	. .	. .	2	1	3	7	6	3	6	1	3
Total	4	6	3	4	1	6	8	7	11	10	6	30	16	35
Order Two—Tubercular.														
Abscess, psoas	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .
Hydrocephalus	15	11	14	9	1	. .	. .	. .	. .	. .	. .	. .	. .	. .
Menengitis, tubercular	6	6	13	7	6	3	. .	3	3	1	2	2	1	1
Morbus, coxarius	.	. .	1	. .	. .	1	. .	. .	1	. .	1	. .	. .	. .
Phthisis	21	19	18	21	10	8	12	28	64	125	213	384	151	224
Scrofula	9	4	2	7	2	3	. .	1	2	4	3	. .	1	. .
Tabes, mesenterica	2	5	3	2	1	2	1	. .	4	1	1	. .	1	1
Total	53	45	51	46	20	17	13	32	74	131	220	387	154	226
Total Constitutional	57	51	54	50	21	23	21	39	85	141	226	417	170	261

Continued.

40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Over 100		Not Rep't'd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
1	1	2	8	1	1	1	. .	. .	. .	. .	. .	. .	. .	1	1	7	26	33
15	46	27	43	29	48	27	23	1	8	. .	4	. .	. .	3	8	116	212	328
6	9	15	8	28	18	20	17	6	10	. .	1	. .	. .	2	2	94	91	185
. .	. .	. .	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1	2
. .	1	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	3	3
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
6	3	5	9	11	9	8	12	. .	. .	. .	. .	. .	. .	. .	. .	44	55	99
28	60	49	68	69	77	57	52	7	18	. .	5	. .	. .	6	11	265	389	654
. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	3	3
. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	31	20	51
2	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	34	23	57
. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	4	1	5
108	144	110	81	80	76	30	36	7	8	1	. .	. .	. .	39	25	863	1,180	2,043
. .	1	2	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	21	22	43
. .	. .	. .	. .	. .	1	. .	1	. .	. .	. .	. .	. .	. .	1	. .	14	13	27
110	147	112	82	81	77	31	38	8	8	1	. .	. .	. .	40	26	967	1,262	2,229
138	207	161	150	149	154	88	90	15	26	1	5	. .	. .	46	37	1,232	1,651	2,883

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5		5 to 10		10 to 15		15 to 20		20 to 30		30 to 40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—NERVOUS SYSTEM.														
Apoplexy	4	. .	. .	. .	1	1	1	2	.	2	5	12	5	3
Brain, abscess	1	. .	1		.	2	. .	1	. .	1	1	1	. .	.
Brain, congestion	32	46	31	34	9	9	3	3	3	8	4	11	4	13
Brain, disease	4	1	4	2	1	. .	1	. .	1	1	. .	1	1	1
Brain, fever	29	16	9	11	3	7	2	.	2	1	1	. .	. .	1
Brain, softening	. .	. .	2	. .	. .	. .	. .	. .	. .	. .	3	. .	6	1
Brain, tumor	1	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .
Cerebritis	24	16	12	5	1	3	2	5	5	4	8	5	3	4
Chorea	. .	1	. .	. .	. .	1	. .	1	. .	. .	. .	. .	. .	. .
Convulsions	129	75	25	28	1	5	2	. .		1	2	5	2	. .
Epilepsy	.	1	1	. .	. .	. .	1	1	3	2	6	2	4	3
Insanity	. .	. .	. .	. .	. .	. .		. .	. .	. .	. .	3	3	3
Locomotor ataxia	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Meningitis	54	61	52	46	17	16	4	9	4	5	3	7	2	4
Meningitis, cerebral	8	5	5	13	5	2	1		1	3	2	1	. .	. .
Meningitis, spinal	6	7	5	3	.	2	. .	. .	. .		1	. .	. .	
Muscular atrophy	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1
Myelitis	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Nervous prostration	. .	. .	. .		. .	. .	1	. .	. .	1	2	1	2	4
Neuralgia	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1
Paralysis	1	2	2	1	1	4	1	1	1	. .	2	4	4	9
Rachitis	2	. .	1		. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Spina Bifida	4	5	. .		1	. .	. .	. .	. .	. .	. .	. .	. .	. .
Spine, disease	1	1	1	2	2	1	2	2	4	1	. .	1	. .	. .
Tetanus	8	8	2	. .	1	. .	4	. .	1	2	2	4	3	. .
Total	309	246	154	144	43	53	25	25	26	32	42	59	41	49
ORDER TWO—CIRCULATORY.														
Congestion	5	4	4	4	. .	1	1	. .	2	1	2	3	1	5
Embolism	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .	. .	1
Epistaxis	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	1	. .
Heart disease	24	14	4	6	6	5	9	8	13	12	22	27	31	31
Hemorrhage	. .	1	. .	. .	. .	. .	. .	.	1	. .	. .	3	1	3
Total	29	19	8	11	6	6	10	8	17	13	25	34	34	40
ORDER THREE—RESPIRATORY.														
Asthma	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	1	. .	2
Bronchitis	47	47	21	23	7	7	. .	1	. .	3	1	14	3	6
Catarrh	. .	1	. .	. .	. .	. .	. .	2	. .	. .	. .	. .	1	. .
Glottis Oedema	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	1	. .
Haemoptysis	2	1	1	1	. .	2	1	. .	. .	2	2	2	4	2
Hydrothorax	. .	. .	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .
Laryngitis	5	4	5	4	4	1	. .	. .	. .	1	1	. .	1	1
Lungs, Abscess	. .	. .	. .	1	. .	. .	. .	1	1	. .	1	2	2	. .
Lungs, Congestion	19	9	6	7	3	2	1	4	1	4	2	7	1	3
Lungs, Disease	1	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	1	2	1
Pharyngitis	1	1	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .
Pleuritis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	1	. .
Pneumonitis	103	82	106	91	37	34	20	17	60	44	87	72	74	79
Pneumonitis, Broncho	1	1	.	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Pneumonitis, Pleuro	. .	1	. .	2	. .	1	1	. .	. .	. .	1	. .	2	1
Pneumonitis, Typho	. .	1	. .	.	. .	2	. .	2	2	3	3	. .	4	2
Total	179	147	140	130	52	52	23	29	65	57	101	101	96	95

Continued.

40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Over 100		Not Rept'ed		Males.	Females.	Totals.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
17	9	28	13	30	27	36	28	14	13	..	..	..	1	6	2	147	113	260
3	1	2	..	..	2	..	..	..	..	..	..	..	..	..	1	8	9	17
4	2	5	3	5	4	6	1	1	3	..	..	..		6	..	113	137	250
4	1	4	..	2	4	3	1	1	1	..	..	..		.	1	26	14	40
..	2	1	1	1	..	1	..	..	..	..	..	..	..	..	..	49	39	88
1	3	6	3	12	6	9	9	2	3	1	..	..	..	3	..	45	25	70
1	1	..	..	..	..	..	..	..	..	..	..	..	..		.	4	1	5
5	3	1	2	4	3	2	..	1	..	..	.	..	..	..	..	68	50	118
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	3	3
1	2	1		..	..	..	..	..	1	..	..	..	..	1	2	164	119	283
2	3	2	..	2	1	2	..	..	..	..	..	..	..	..	1	23	14	37
1	,	..	..	..	1	..	1	..	..	..	..	..	..	..	..	4	9	13
..	..	1	..	1	1	1	..	..	..	..	..	..	..	..	1	3	3	6
4	1	3	4	..	1	1	1	..	..	..	..	..		1	1	145	157	302
1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	24	24	48
..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	14	13	27
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
3	4	2	1	1	5	1	1	3		..	..	..	..	..	1	15	18	33
2	..	2	..	..	1	..	2	..	..	..	..	..	..	..	..	4	5	9
18	10	27	24	31	52	46	43	20	19	3	2	1	..	4	6	162	177	339
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	....	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	10
2	1	3	..	3	..	..	2	1	..	..	..	..	..	..	2	19	13	32
2	2	2	1	1	1	1	..		..	..	..	..	..	..	..	27	18	45
71	47	93	53	93	110	109	89	43	40	4	2	1	1	21	18	1,075	968	2,043
2	1	2	..	1	..	..	3	..	..	..	..	..	..	..	..	20	22	42
..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3
55	46	74	49	102	61	78	60	24	17	1	2		..	18	9	461	347	808
..	2	..	2	..	1	..	..	..	..	..	..	..	..	..	..	2	12	14
57	49	76	52	104	62	78	63	21	17	1	2	..	..	18	9	486	385	871
..	2	3	5	6	6	5	2	1	4	..	..	..	..	1	1	18	23	41
5	5	5	7	12	14	18	19	3	17	1	1	..	..	2	2	125	166	291
..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	2	4	6
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
3	1	4	1	6	2	2	2	..	..	..	..		..	2	6	27	22	49
..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	3	2	5
1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	17	12	29
1	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	8	4	12
2	1	7	1	6	4	7	7	3	3	..	1	..	..	1	2	59	54	113
1	1	1	..	2	2	.	1	..	..	..	..	..	..	..	..	7	7	14
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
2	2	1	1	3	1	1	3	2	1	..	..	..	..	..	..	10	10	20
114	64	80	71	128	73	97	68	41	26	4	..	..	..	30	19	981	740	1,721
..	..	..	..	..	1	..	1	.	..	..	..	..	..	1	1	2	5	7
..	1	3	..	..	1	3	1	..	..	..	..	..	..	..	..	10	8	18
4	..	2	1	3	..	2	1	..	..	..	..	..	..	..	..	21	12	33
133	77	108	89	169	104	136	106	50	51	5	2	..	..	37	31	1,294	1,071	2,365

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1.		1 to 5		5 to 10		10 to 15		15 to 20		20 to 30		30 to 40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER FOUR—DIGESTIVE.														
Bowels, catarrh	6	3	4	. .	. .	. .	. .	. .	. .	. .	. .	1	1	. .
Bowels, congestion	15	9	4	4	4	2	2	. .	. .	3	. .	5	. .	1
Bowels, disease	. .	1	. .	. .	. .	. .	. .	. .	1	1	. .	. .	. .	. .
Bowels, hemorrhage	2	. .	1	. .	. .	1	. .	. .	. .	. .	1	1	. .	. .
Bowels, obstruction	4	. .	1	2	5	1	2	1	1	. .	3	1	1	3
Bowels, ulceration	3	2	. .	. .	. .	. .	. .	. .	. .	1	1	2	. .	. .
Colic	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Colitis	1	. .	1	. .	. .	1	. .	. .	. .	. .	. .	1	2	. .
Dyspepsia	1	1	. .	. .	. .	. .	. .	. .	. .	. .	1	1	. .	. .
Enteritis	45	37	20	10	4	3	2	6	7	1	4	4	6	3
Gall stones	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	1	. .	. .
Gastritis	6	7	5	4	3	1	4	3	5	5	2	4	3	7
Gastro enteritis	7	7	1	2	. .	1	. .	1	. .	. .	2	1	1	2
Hepatitis	. .	4	. .	. .	. .	. .	. .	. .	1	. .	4	3	1	2
Hernia	2	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Intussusception	3	. .	. .	1	. .	2	. .	2	. .	1	. .	2	1	2
Jaundice	6	2	. .	1	. .	. .	. .	1	. .	. .	. .	1	. .	1
Liver, abscess	. .	. .	. .	. .	. .	2	1	. .	. .	. .	1	1	2	. .
Liver, cirrhosis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	5	3
Liver, congestion	1	. .	. .	1	. .	. .	. .	. .	. .	. .	1	1	. .	1
Liver, disease	. .	2	. .	. .	. .	. .	. .	. .	1	1	1	. .	3	1
Liver schlerosis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .
Oesaphagus stricture	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Peritonitis	5	6	3	9	7	3	8	7	5	11	11	30	8	23
Splenitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Stomach, catarrh	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Stomach, congestion	6	2	3	2	2	3	2	. .	2	. .	4	6	. .	2
Stomach, disease	1	. .	. .	1	1	1	. .	. .	. .	. .	1	. .	1	2
Stomach, ulceration	1	. .	1	1	1	. .	. .	. .	. .	2	2	1	1	6
Stomatitis	4	4	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Tonsilitis	. .	3	1	1	3	2	1	. .	3	. .	1	. .	. .	. .
Tiphlitis	. .	1	. .	. .	. .	. .	2	1	. .	. .	1	1	3	1
Total	119	94	46	39	31	23	24	22	26	26	42	68	39	63

Continued.

40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Over 100		Not Reptd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
. .	. .	. .	. .	. .	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	12	5	17
2	1	2	3	1	5	3	1	. .	1	1	. .	. .	. .	2	1	36	36	72
1	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	3	6
1	1	. .	1	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	7	4	11
2	2	5	2	3	1	2	1	. .	. .	. .	. .	. .	. .	2	. .	31	14	45
2	3	2	2	2	3	1	1	. .	. .	. .	. .	. .	. .	. .	. .	11	14	25
. .	. .	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	2	3	5
. .	1	. .	. .	. .	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	5	4	9
1	. .	1	3	3	1	. .	1	. .	2	. .	. .	. .	. .	. .	. .	7	9	16
4	2	4	8	11	2	4	6	. .	1	. .	. .	. .	. .	5	. .	116	83	199
. .	1	. .	. .	3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	2	6
.	3	10	4	9	11	2	10	2	3	. .	2	. .	. .	1	. .	52	64	116
. .	. .	3	3	3	5	1	. .	. .	. .	. .	. .	. .	. .	. .	1	18	23	41
4	1	4	5	3	3	4	7	1	. .	. .	. .	. .	. .	2	2	24	27	51
5	3	. .	1	2	. .	2	2	1	. .	. .	. .	. .	. .	. .	. .	12	8	20
2	5	2	1	2	1	1	1	. .	2	. .	. .	. .	. .	4	2	15	22	27
5	2	3	1	2	. .	. .	2	. .	1	. .	1	. .	. .	1	. .	18	12	30
2	1	1	1	2	. .	1	1	. .	1	. .	. .	. .	. .	1	. .	11	7	18
3	1	13	.	4	6	3	1	1	. .	. .	. .	. .	. .	. .	. .	29	11	40
. .	1	4	2	1	3	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	9	9	18
4	2	4	3	3	2	. .	3	. .	1	. .	. .	. .	. .	. .	. .	16	15	31
. .	. .	1	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	2	4
1	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. . . .	2
1	20	3	5	5	8	4	4	1	1	. .	. .	. .	. .	1	2	62	129	191
. .	1	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	2	3
. .	. .	. .	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	.	2	1	3
1	5	2	3	2	1	1	4	. .	1	. .	. .	. .	. .	1	. .	25	30	55
. .	. .	.	1	3	. .	2	. .	2	. .	. .	. .	. .	. .	. .	. .	11	5	16
. .	5	5	. .	3	2	3	2	. .	. .	. .	. .	. .	. .	. .	. .	17	19	36
. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	6	6	12
. .	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	12	6	18
. .	. .	. .	3	1	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	7	9	16
41	62	71	55	74	59	39	48	10	14	1	3	. .	. .	22	8	585	584	1,169

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5		5 to 10		10 to 15		15 to 20		20 to 30		30 to 40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER FIVE—URINARY.														
Albuminurea	..	1	..	..	1	..	1	1	..	1	.	..	3	2
Cystitis	..	1	..	..	..		..	..	..	..	2	.	1	1
Diabetes	1	1	1	..	1	..	1	1	2	1	3	4	1	1
Kidney disease	2	..	1	1	..	..	..		1	..	1	1	1	..
Nephria	..	1	1	..	4	..	1	4	2	2	6	14	4	1
Nephritis	1	2	1	4	2	4	2	..	..	1	9	2	4	6
Uraemia	2	1	1	1	2	1	..	1	..	3	1	3	2	4
Urethra stricture	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urine suppression	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	8	7	5	6	10	5	5	7	5	8	22	24	16	15
ORDER SIX—GENERATIVE.														
Chlorosis	..	..	..	..	..	..	..	1	..	1	..	..	..	..
Metritis	..	..	..	..	..	..	..	..	..	1	..	3	..	3
Prostatitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tumor, ovarian	..	..	..	..	..	..	..	..	..	1	..	2	.	2
Total	..	..	..	..	..	..	..	1	..	3	..	5	..	5
ORDER EIGHT—INTEGUMENTARY.														
Abscess	1	3	3	3	1	1	..	2	1	1	..	8	4	2
Total	1	3	3	3	1	1	..	2	1	1	..	8	4	2
ORDER NINE—MISCELLANEOUS.														
Adenitis	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Cellulitis	1	1	..	..	..	..	..	..	..	..	1	..	..	1
Otitis media	1	2	..	2	..	..	..	..	1	..	..	..	..	..
Tumor	1	3	..	..	..	..	..	..	..	..	..	1	1	1
Total	3	6	..	2	..	..	..	1	1	..	1	1	1	2
Total Local Diseases	648	522	356	335	143	140	87	95	141	140	233	300	231	271

Continued.

40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Over 100		Not Rept'ed		Males.	Females.	Totals.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
2	1	4	1	2	1	2	1	. .	2	1	. .	. .	. .	.	: .	16	11	27
3	. .	. .	1	12	1	16	3	9	.	1	. .	. .	. .	2	. .	46	7	53
2	2	3	5	4	6	5	3	1	. .	. .	. .	.	. .	2	. .	27	24	51
2	1	3	2	4	. .	4	3	2	. .	. .	. .	.	. .	. .	. .	21	8	29
5	7	18	11	30	6	24	7	4	2		. .	. .	. .	1	4	100	59	159
2	1	8	1	5	2	7	2	. .	. .	. .	1	. .	. .	. .	1	41	27	68
2	2	4	2	5	2	7	1	3	. .	. .	. .	. .	. .	. .	. .	29	21	50
. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	1
. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	. . . .	3
18	14	40	23	62	18	67	20	19	4	2	1	. .	. .	5	5	284	157	441
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	2	2
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	7	7
. .	. .	1	. .	1	. .	2	. .	1	. .	1	. .	. .	. .	. .	. .	6	. . . .	6
. .	4	. .	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	11	11
. .	4	1	1	1	. .	2	1	1	. .	1	. .	. .	. .	. .	. .	6	20	26
. .	. .	4	2	2	3	3	. .	. .	. .	. .	. .	. .	. .	1	2	20	27	47
. .	. .	4	2	2	3	3	. .	. .	. .	. .	. .	. .	. .	1	2	20	27	47
. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1	2
. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	3	5
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	4	6
1	5	1	4	. .	. .	2	. .	. .	1	. .	. .	. .	. .	. .	. .	6	15	21
1	5	1	4	. .	1	3	. .		1	. .	. .	. .	. .	. .	.	11	23	34
321	258	394	279	504	357	437	327	147	127	14	10	1	1	104	73	3,761	3,235	6,996

TABLE D—

CLASS FOUR—DEVELOPMENTAL DISEASES.	Under 1		1 to 5		1 to 10		10 to 15		15 to 20		20 to 30		30 to 40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Order One—Children.														
Atelectasis	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Birth, injury	13	5	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Birth, premature	100	94	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Cyanosis	26	38	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Dentition	1	8	. .	3	1	. .	. .	. .	. .	. .	. .	. .	. .	. .
Hemorrhage, umbilical	3	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Malformation	9	8	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Malnutrition	2	6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	155	161	1	4	1	. .	. .	. .	. .	. .	. .	. .	. .	. .
Order Two—Women.														
Amenorrhœa	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .
Climacteria	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .
Parturition	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	8	. .	14
Placenta previa	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	2
Post-partum hem	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	9	. .	4
Puerperal eclampsia	. .	. .	. .	. .	. .	. .	. .	. .	. .	9	. .	14	. .	9
Uterus disease	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	6
Total	. .	. .	. .	. .	. .	. .	. .	2	. .	9	. .	35	. .	35
Order Three—Old Age.														
Old age	. .	. .	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	. .
Total	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Order Four—Nutrition.														
Asthenia	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Debility	18	23	2	. .	. .	. .	. .	. .	. .	. .	1	1	. .	3
Exhaustion	32	24	2	3	. .	1	. .	. .	. .	1	1	2	2	2
Marasmus	38	38	3	2	. .	. .	1	1	1	1	. .	. .	. .	. .
Total	88	86	7	5	. .	1	1	1	1	2	2	3	2	5
Total developmental dis	243	247	8	9	1	1	1	3	1	11	2	38	2	40

Continued.

40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Over 100		Not Rep'td		Males.	Females.	Totals.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1	2
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	13	5	8
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	100	94	194
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	27	39	66
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	11	13
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	9	8	17
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	6	8
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	157	165	322
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	2	2
. .	5	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	27	27
. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	5	5
. .	2	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	17	17
. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	34	34
. .	1	. .	. .		. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	9	9
. .	11	. .	1	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	.	2	. . . .	95	95
.	. .	1	. .	7	13	86	110	99	114	16	41	5	3	6	5	220	286	506
. .	. .	1	. .	7	13	86	110	99	114	6	41	5	3	6	5	320	286	506
. .	. .	3	2	1	1	. .	2	2	. .	.	1	. .	. .	.	. .	6	7	13
3	2	8	7	11	14	17	17	7	15	2	3	1	. .	1	2	71	87	158
4	1	3	3	3	3	3	4	4	. .		. .	. .	. .	3	1	57	45	102
. .	. .	. .	1	1	. .	3	1	1	2	. .	. .	. .	. .	2	1	50	47	97
7	3	14	13	16	18	23	24	14	17	2	4	1	. .	6	4	184	186	370
7	14	15	14	23	31	109	134	113	131	18	45	6	3	12	11	561	732	1,293

TABLE D—

CLASS FIVE—VIOLENCE.	Under 1		1 to 5		5 to 10		10 to 15		15 to 20		20 to 30		30 to 40	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—ACCIDENTS.														
Accidents	20	23	8	4	10	. .	12	4	14	5	43	9	39	4
Accidents, railroad	1	1	3	. .	4	. .	7	. .	8	2	32	2	20	1
Boiler explosion	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .
Burn	2	1	11	12	1	4	. .	1	3	2	. .	2	1	1
Drowning	2	. .	1	. .	. .	1	8	. .	8	2	7	1	2	1
Insolation	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .	3	. .
Lightning	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	2	. .
Poison	2	1	4	4	1	1	. .	2	. .	1	2	6	7	3
Shooting	. .	. .	. .	. .	2	. .	7	. .	10	. .	17	. .	9	. .
Total	27	26	27	20	18	6	34	7	45	12	102	20	85	10
ORDER THREE—HOMICIDE.														
Homicide	. .	. .	1	.	. .	. .	. .	. .	. .	. .	5	. .	4	. .
Total	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	5	. .	4	. .
ORDER FOUR—SUICIDE.														
Drowning	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1
Hanging	. .	. .	. .	. .	. .	. .	1	. .	. .	2	2	. .	. .	. .
Poison	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	3	6	5	3
Shooting	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	2	. .	. .
Suicide	. .	. .	. .	. .	. .	. .	. .	. .	3	1	8	7	3	3
Total	. .	. .	. .	.	. .	. .	1	. .	3	5	16	16	8	7
Total Violence	27	26	28	20	18	6	35	7	48	17	123	36	97	17
UNKNOWN.	120	94	30	27	6	6	4	5	8	7	16	10	9	12
RECAPITULATION.														
Zymotic Diseases	681	603	532	467	172	205	69	110	123	159	186	262	96	137
Constitutional Diseases	57	51	54	50	21	23	21	39	85	141	226	417	170	261
Local Diseases	648	522	356	335	143	140	87	95	141	140	233	300	231	271
Developmental Diseases	243	247	8	9	1	1	1	3	1	11	2	38	2	40
Violence	27	26	28	20	18	6	35	7	48	17	123	36	97	17
Unknown	120	94	30	27	6	6	4	5	8	7	16	10	9	12
Grand Total	1776	1543	1008	908	361	381	217	259	406	475	786	1063	605	738
Still births	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	.	. .	. .
Total	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .

Continued.

40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Over 100		Not Reported.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F			
28	10	23	8	21	5	12	7	7	2	3	. .	. .	. .	13	5	253	86	339
11	. .	16	1	7	. .	4	. .	.	. .	. .	. .	. .	. .	8	.	121	7	128
1	. .	1	. .	1	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	7	. . . .	7
. .	.	1	2	. .	2	1	2	. .	. .	. .	. .	. .	. .	1	2	21	31	52
3	. .	3	.	1	1	1	1	1	. .	. .	. .	. .	. .	3	2	40	9	49
3	. .	1	.	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	11	. . . .	11
. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	. . . .	4
3	. .	5	2	1	2	2	. .	. .	. .	. .	. .	. .	. .	2	1	29	23	52
1	1	1	1	2	.	. .	. .	. .	1	. .	. .	. .	. .	1	. .	50	3	53
50	11	52	14	33	10	22	10	9	3	3	. .	. .	. .	29	10	536	159	695
1	. .	2	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	.	15	. . . .	15
1	.	2	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	15	. . . .	15
. .	.	. .	1	. .	. .	. .	. .	.	.	. .	. .	. .	. .	. .	. .	. . . .	3	3
3	1	1	. .	3	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	11	3	14
3	2	1	2	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	15	15	30
3	1	2	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	11	3	14
4	1	4	3	2	1	. .	. .	. .	. .	. .	. .	. .	.	. .	. .	24	16	40
13	5	8	6	8	1	1	. .	.	.	. .	. .	. .	. .	2	.	61	40	101
64	16	62	20	43	11	24	10	9	3	3	. .	. .	. .	31	10	612	199	811
9	9	20	11	28	13	16	16	3	10	. .	1	. .	. .	27	23	296	244	540
103	88	93	55	87	69	69	68	43	33	3	4	. .	1	29	41	2,286	2,302	4,588
138	207	161	150	149	154	88	90	15	26	1	5	. .	. .	46	37	1,232	1,651	2,883
321	258	394	279	504	357	437	327	147	127	14	10	1	1	104	73	3,761	3,235	6,996
7	14	15	14	23	31	109	134	113	131	18	45	6	3	12	11	561	732	1,293
64	16	62	20	43	11	24	10	9	3	3	. .	. .	. .	31	10	612	199	811
9	9	20	11	28	13	16	16	3	10	. .	1	.	. .	27	23	296	244	540
642.	592	745	529	834	635	753	645	330	330	39	65	7	5	249	195	8,748	8,363	17,111
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	541	371	912
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	9,289	8,734	18 023

CROUP.

An examination of the vital statistics of the State for the last six years shows that whenever there has been an increased number of deaths from diphtheria there has invariably been a corresponding increase in the death rate from croup.

This circumstance strongly tends to prove the theory that they are one and the same disease, both being contagious, depending on a common cause for their origin.

The same rules which are laid down for the prevention of the spread of the contagion of diphtheria should be enforced in all cases of croup. In relation to the identity of diphtheria and croup we take the liberty of publishing the following from the pages of the Archives of Pediatrics, a journal devoted to the diseases of infants and children:

"Brainerd: The identity of diphtheria and membranous croup (American Lancet, September, 1888). In discussing the question of the identity of diphtheria and membranous croup, the writer presents the following propositions:

"1. The etiology of the two affections is the same, whether we accept the bacteria theory or the theory of ptomaines as the cause. Personally he does not believe in the bacteria theory in diphtheria and croup, and the advocates of the theory do not agree among themselves as to which of the three or four bacteria found in the exudate is the causative one. If the bacteria be the cause they are found in diphtheria and croup alike.

"There is no proof as yet that the micrococci are the cause of the disease. (Wood and Formad.) Indeed they are found in a perfectly healthy mouth. The doctrine of ptomaines supposes some virulent poisons, set free in the process of decomposition of organic matter, to be the causes of some diseases, as septicaemia. These bacteria acting upon the pseudo-membrane, which is of course dead matter, doubtless effect its decomposition in such a way as to set free these animal poisons or ptomaines, and then they (the bacteria) serve as carriers of the ptomaines, the same as a bee carries pollen, or a letter carries scarlatina poison. Whichever theory we accept will afford us evidence of unity in cause.

"2. In case there is formed a false membrane, having the same microscopical appearance and the same histological structure. In each case there has been poured out upon the mucous surface of some portion of the respiratory tract, fibrine and leucocytes to constitute the chief part of the membrane. This entangles some red cells, pus and epithelium. Wagner holds that the pseudo-membrane contains no fibrine, but that it consists of degenerated epithelial cells laced together by their own processes. Jacobi says this membrane "has been called croupous when it was lying on the mucous membrane, without changing much or at all the subjacent epithelium, and could be removed without difficulty. It has been called diphtheritic when it was imbedded into the mucous membrane and was difficult to remove. This difference exists, but it does not justify a difference of names, except for clinical discrimination."

This difference is dependent upon the anatomy of the mucous membrane in the part affected and its glandular supply. The nasal passages, pharynx, epiglottis and vocal cords, are covered with pavement epithelium; the most of the larynx, the trachea, bronchi, and bronchiales, down to those of one-fiftieth of an inch in diameter, are lined with columnor epithelium. The pavement epithelium have no ciliae; the columnor has; and this fact explains part of the difference of tenacity with which the pseudo-membrane clings to the mucous membrane. The abundance of muciporous glands in the tonsils and parts of the larynx explain the facility with which the exudates cleaves from these parts. Jacobi says: "Ciliated epithelium is not so liable to be affected, it occupies a higher rank in the scale of animal formations, has a more complex function and a greater power of resistance. The presence of a large number of mucous glands impede, as a rule, by the presence of the normal secretion, an extensive destructive action upon the tissues. The secreted mucous assists in removing epithelial masses, and even fibrous exudations from the surface. Thus it is that the deposit in the respiratory portion of the nasal cavities are frequently cast off through the nostrils, and in a similar manner the membranes that have been formed in the trachea are ejected in a semi-solid form through the opening made in tracheotomy.

3. Both are contagious. Nearly everyone admits that diphtheria is contagious, and there is no less authority than Pepper's "System of Medicine" to prove that pseudo-membraneous laryngitis is likewise contagious. But without this au-

thority, his own observations would confirm his faith in this. Croup is not so contagious as diphtheria because the pseudo-membrane being on cylindrical epthelium, and on a membrane thickly studded with muciporous glands, is sooner exfoliated, and superation does not have an opportunity to go on to the same extent. The products are not for that reason so infecting. Another reason why nasal diptheria is so much more frequently fatal than croup lies in the fact that the lymphatic vessels in the Schneiderian are numerous and large, and communicate directly with the lymph glands in the neck.

4. Croup will originate diphtheria, and vice versa, as in a case which he relates, Jacobi says: "In the same family, from a case of croup, either another case of larygneal croup may originate, or another form of diphtheria will develope in other members of the household."

He elsewhere says that croup occurs mainly during an epidemic of diphtheria, and formerly, before diphtheria began to appear in epidemic, it was called, when occurring in the larynx, pseudo-membraneous croup.

Laws referred a number of cases of croup in adults to pharyngeal diphtheria as their source. Hamilton claims that diphtheria sometimes terminates in croup. Pretty thinks that croup may take its origin in diphtheria, and is then contagious. Ribes asserts that croup in his practice rarely occurred without a preceding diphtheria.

5. Both croup and diphtheria will give diphtheretic membranes in surgery. Diphtheretic vaginitis and conjunctivitis and diphtheretic membranes on surgical wounds are too frequent to need more than simple mention. Such membranes in the progress of croup occur less frequently and for the reasons assigned for its less infectiousness. Diphtheric membranes on the wound made in tracheotomy for the relief of croup are sufficiently frequent to establish this proposition.

6. The testimony of writers—Under this head he presents the affirmative testimony of writers, so far as it is available to him, for the most part obtained from Pepper, Bard, Brentenneau, Jacobi, Mackenzie, Deslanders, Fuchs, Richet and Barthez, Trousseau, Bamberger and Shaffer believe in the identity of the two affections.

PHTHISIS PULMONALIS.

Phthisis pulmonalis leads all other diseases in its destruction of life, having caused 2,043 deaths within the year.

The statistics of this country show that one-eighth of the deaths are due to consumption. Many sanitarians now consider this disease a preventable one. It has been demonstrated by experiment that tubercles are produced by want of light, and pure air.

Impure and unhealthy occupations are predisposing causes. Salesmen in stores are particularly liable thereto, because of their employment in rooms where the air is super-heated and the ventilation bad. Phthisis is common among operatives in factories, rolling mills, machine shops, coal mines, etc., their occupation surrounding them with dust-laden and vitiated air. Soil moisture and crowd poison as it exists in the tenement houses of our large cities, intemperance, over-exertion, and, in fact, anything which tends to lower the vital forces predisposes to develop tubercular disease of the lungs, and especially so if there be any hereditary tendency. For many years it has been suspected, and is now believed by many that consumption of the lungs is a true infectious disease, due to a special cause, which, when implanted in the system, is capable of growth and multiplication. In 1881 Dr. Robert Koch, of Berlin, "proved that the harmful agent was a minute vegetable growth that could be cultivated outside the body of any animal for an indefinite period, and when it was inoculated into healthy animals it always produced the same results, tuberculosis. He proved that it was invariably present in the lungs of those dying of consumption, and was always to be found in matter expectorated by consumptive patients. He made his demonstrations so complete and perfect, and his experiments have been repeated so often by competent observers, that there is now perfect agreement among all who are competent to judge of such matters concerning the nature of consumption and all forms of tubercular diseases. Koch found that this parasite is very slow about beginning to grow; that it is fully ten days before it shows any tendency to do so; that it requires a temperature nearly that of the healthy animal body before it will develop at all; that it must have moisture also, and that thorough drying does not kill its seeds.

These facts have a most important bearing upon the way in which the disease is propagated from person to person. Certain animals never become tuberculous unless the germs are introduced purposely into their bodies. The dog is one of these. In the same way there are families among men who prove almost entirely exempt from consumption and similar affections. There are animals, however, such as rabbits and guinea pigs, which acquire tubercle with the utmost facility. So we find families and nations of men which are especially prone to take the affection. Thus the negro race in northern climates are especially prone to acquire consumption. It is a matter of every-day experience to see the children and grandchildren of consumptives die of the same disease on reaching a certain age. This fact was understood long before the bacillus of tuberculosis was discovered. People with long, shallow and narrow shoulders, who showed a tendency to catarrhal inflammations of the eyes, nose, throat and lungs were recognized as especially liable to become consumptives. Damp, dark and badly ventilated dwellings were known to favor the development of the disease in those descending from consumptive families and to often occasion it in families previously free from its ravages. Measles, whooping cough, small-pox, typhoid fever, etc., were noticed to be followed by consumption in a large proportion of cases. The life history of the bacillus of tubercle gives a key to those hitherto inexplicable facts. The matter expectorated by a consumptive swarms with the germs of the disease. They are not hurt by drying; they become mixed with the soil, are ground to dust, and are wafted about by every breeze. They are thus inhaled with the air we breathe, and every one takes them into his lungs. But they must remain at rest for ten days even in the most suitable location before they can begin to grow. Long before this time can elapse the healthy lungs can expel them. They are coughed up or removed by the microscopic, hair.like prolongations of the cells that line the air passages. But let a thick, gluey material fill the finest of the little air tubes, so that the little vegetable seeds can attach themselves the length of time required for them to germinate, or let the life forces become lowered by a serious disease so that strength is wanting to secure their expulsion, and they begin to grow and multiply without limit. The long, narrow point of lung that extends upward back to the collar bone has the least power of any part to squeeze out all the air or the mucus that may accumulate in consequence of a catarrhal inflammation, consequently this is the favorite point for the beginning of the deposit of the tubercle. The longer and narrower the section of lung is the more chance of the microbe lodging there and making it the starting point for future depredations. A fair degree of health makes the human body resistant to the action of these germs; they are either destroyed or expelled from the organism before they can do any damage. The common form of disease germs are alwas floating about in the air, those of tubercle being the most abundant, probably, in all thickly inhabited localities. They are taken into the stomach with the food and drink, and into the lungs with the air we breathe."

BARTHOLOMEW COUNTY.

C. N. Metcalf, Secretary State Board of Health:

The sanitary condition of this county has been fairly good during the year ending September 30, 1888.

If we credit the statements of the physicians located in the county, we are forced to believe that there has been less sickness among the people than formerly, and their statement is confirmed by the death record, which shows only 281 deaths from all causes during the year. We had no outbreak of contagious or communicable diseases; there were reported three cases of diphtheria, in as many families, and one case of scarlet fever, and two of typhoid fever; though the death record shows seven deaths from typhoid fever, and one case of cerebro-spinal menenigitis. Yet we had no spread from any disease reported. The majority of deaths appear to have been produced by preventable causes, which proves that the people have not yet learned to practice sanitary precaution.

JOHN S. ARWINE,
Secretary Board of Health.

BENTON COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health, Indianapolis, Ind.:

DEAR SIR—Your circular letter of November 28, "asking my report of the sanitary condition of this (Benton) county, for the statistical year ending September 30," just received, and will say in reply thereto, that it is indeed very good. This county is a high-rolling prairie and being well-drained, almost all the sloughs have been thoroughly tiled so that they now furnish the most fertile lands for the production of the cereals, and by this drainage the hot-bed of germ production has been broken up, and for that reason, no doubt, the general health of the county grows better and better each year. There have been no epidemics of any character in this county during the past year. There have been reported to me the following cases of contagious diseases, viz.: Measles, 2; scarlet fever, 4; diphtheria, 1; typhoid fever, 1; and the deaths reported as the result of the above cases were: Measles, 2; diphtheria, 1. There has been no small-pox or cerebro-spinal fever. There have possibly been more cases of a typhoid nature than have been reported, but in most cases the malarial element so predominated that the physicians failed to report them. The means to prevent the spread were such as are usually recommended by the board. Physicians, as a rule, very readily comply with the requests of the board. There has also been no epidemic among the domestic animals of the county. The Benton County asylum for the poor is in splendid sanitary condition. The rooms are all well-ventilated, and have plenty of light. There are two cisterns, which are well-kept, and a splendid well, which furnishes an abundance of pure water. The Superintendent is evidently the right man in the right place. The county jail is in fair condition, would be in excellent condition but for a little defect in the sewerage from the cells. The inhabitants of Benton County are of a mixed class, composed of Americans, French, Germans, Irish, Swedes, and Danes. The ratio being in the order named. Fowler, the county seat, is a neat, clean town of fifteen hundred inhabitants, situated near the center of the county. Most respectfully submitted,

CLARK COOK, M. D.,
Secretary Benton County Board of Health.

CLARK COUNTY.

JEFFERSONVILLE, IND., October 31, 1888.

C. N. Metcalf, M. D., Secretary Indiana State Board of Health, Indianapolis, Ind.:

DEAR SIR—Your circular of inquiry as to the sanitary condition of Clark County for the year ending September 30, 1888, is at hand, and I take pleasure in stating that the sanitary condition of our county has been very good. We have had no epidemics of any sort. A few cases of typhoid fever occurred in our county, and a few deaths from the same. We have had no smallpox at all. We had a very few cases and a few deaths from scarlatina. We also had a few cases of cerebro-spinal fever, but none of the above to any extent. But we had diphtheria in one township (Silver Creek Township) to a considerable extent, so much that it was necessary to take certain steps or precautions to check it; but the disease prevailed in a mild form, hence the death rate was very light. I made a visit to the infected district and found that the sanitary condition was not as good as it should have been, so I ordered a general cleaning up and the use of various disinfectants, and advised isolation as far as possible; but the disease prevailed among the poorer classes, in which it was impossible to practice isolation successfully. By the able assistance of the local profession the disease was soon gotten under control. As to the cause, I think bad hygiene and contagion were the principal factors or causes. The trouble occurred in the district where all the cement mills are located; also, the drainage in the town is not near what it should be.

I am under obligations to the local physicians at Sellersburg for their able assistance and the readiness with which they complied with any suggestions I made. Very truly yours,

D. C. PEYTON, M. D.,
Secretary Clark Board of Health.

CRAWFORD COUNTY.

LEAVENWORTH, IND., October 31, 1888.

Chas. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—In answer to your inquiry of November 28, concerning the sanitary condition of Crawford County, I would say it is unexceptionable for the latter part of the statistical year.

During the fall of 1887 we had an endemic of typhoid fever at and around Milltown, a small town in the northeastern part of the county. The town is located on Blue River which has a sluggish current when the water is low, as it was during the drought of last autumn. The local physicians of the town inform me that the drainage was bad, and that the privies were in a bad condition. The death rate was small.

There were sixty-six cases of typhoid fever reported in the county for the year. There were four cases of cerebro spinal menengitis, diphtheria two. No small-pox or scarlatina.

Health is usually good in this county; the surface is rolling and much of it quite hilly, hence is well drained. The sanitary condition of the schools is excellent; no complaint has been reported in regard to them. The poor asylum has been removed from a creek valley to an elevated tract of land, and is clean and well cared for.

The physicians do not make prompt returns. Many of them do not report unless reminded of their duty in this respect, thus defeating the object of having dangerous diseases reported. I reported—some failures to report—to the grand jury which was beneficial in making them more prompt. I subscribed for all the county papers and when a notice of death was printed, a note was taken of it and the case investigated by the grand jury and thus was enabled to get the facts in the report as well as the physician's name who failed to report the case.

The plan of writing to each licensed physician at close of each quarter has been adopted. Very respectfully,

H. H. SETSER,
Secretary Crawford County Board of Health.

DAVIESS COUNTY.

In response to your circular, I herewith submit my report of Daviess County. During the year ending September 30, 1888, Daviess County has been free from epidemics or contagious diseases. All of our physicians are very prompt in making their reports to my office, for which favors they deserve the greatest compliment.

During the year the following diseases have been reported: Typhoid fever, 18, deaths, 13; cerebro spinal menengitis, 14 cases reported, with 8 deaths; scarlatina, 6 cases reported, no death; diphtheria, 8 cases reported, deaths, 2; dysentery, 2 cases reported, 2 deaths; measles, 3 cases occurred in my own practice. I quarantined them and kept a close watch on all of the family, thus stopping the plant entirely, and no other cases have since occurred in the county.

In all cases of diphtheria and scarlet fever that came to knowledge, the proper regulation flags were immediately put out at the front and side entrance of the dwelling, and your instructions carried out to the letter, thus stopping the spread and causing the disease to entirely die out. The typhoid cases in Daviess County have been sporadic, and probably nothing more than a severe type of malarial fever. The cases have not been confined to any particular locality, but have been distributed over the entire county. The health of Daviess County has been improving for the last seven years, owing to the increased drainage. Our great "Loo Goon's" that covered hundred of acres of land, is now one vast field of golden grain. The habitation of muskrats and marsh-hens is no more.

Daviess County Asylum for the poor is in good condition, well kept, well ventilated, and, in fact, in a very high sanitary state.

I have given special attention to our County School Houses. All are kept clean, water closets are kept well disinfected.

Our County Jail is in a good sanitary condition.

Another reason of our rapid growth to health in Daviess County for the last three years I have had the hearty coöperation of all the physicians in the county who are taking a great interest in the vital statistics of this county. Domestic animals of this county have been free from diseases.

Respectfully,
Dr. W. H. H. Strouse,
Secretary County Board of Health.

DELAWARE COUNTY.

Office of Delaware County Board of Health,
Muncie, Ind., October 31, 1888.

C. N. Metcalf, M. D.:

During the year ending September 30, 1888, there have been no cases of smallpox in this county. Nor has there been an epidemic of either typhoid, diphtheria, scarlatina or cerebro-spinal meningitis. Sporadic cases of each of these diseases have occurred and been reported to this Board as follows:

Diphtheria	21	cases.
Scarlatina	12	"
Cerebro-spinal meningitis	2	"
Typhoid	9	"

The physicians of the county have generally reported these cases promptly, and have observed the rules established by the Board to prevent the spread.

In cases of diphtheria and scarlet fever isolation and disinfection has been strictly enforced. As the objects of the health law become better understood there is a more willing acquiescence in the rules and regulations as promulgated by the Board of Health, and each year shows an improvement in the sanitary condition of the county over the year preceding.

A. B. Bradbury, M. D.,
County Health Officer.

FLOYD COUNTY.

New Albany, Ind., October 31, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health:

Dear Sir—In reply to your circular letter of November 28 I am gratified to state that during the year ending September 30, 1888, our county had no epidemic of contagious or other diseases. The year was one of unusual healthfulness. We had about the usual number of isolated cases of typhoid fever, but the mortality from it was small.

A very few cases of scarlet fever occurred in New Albany, but none proved fatal.

Several cases of diphtheria occurred in the city and county in widely separated localities, death resulting in a few instances. In no case was it possible to trace the contagion except where cases occurred in houses in which the disease had previously existed.

No case of smallpox nor of cerebro-spinal fever was reported nor existed.

Isolation was practiced in all cases and disinfection in some.

The physicians reported promptly all infectious diseases, and were always ready to assist the Board of Health in preventing their spread.

Respectfully,

E. P. Easley, M. D.,
Secretary Floyd County Board of Health.

FULTON COUNTY.

Rochester, Ind, October 31, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health:

Dear Sir—During the year ending September 30, 1888, there were no cases of small-pox or cerebro-spinal fever in Fulton County. There were no general outbreaks of other "diseases dangerous to public health," and the schools were in nowise interfered with beyond the temporary exclusion of children from afflicted households. There were thirty-two cases of scarlet fever reported from three townships; seventeen cases of diphtheria reported from three townships, and twenty-two cases of measles reported from five townships, but the majority of all these were from the township in which is located the county seat. At the same time there were reported three deaths from scarlet fever, six from diphtheria, and two from measles.

The cause of these cases is supposed to be contagion, the cases appearing from time to time in single families. There is reason to believe that all cases are not reported, partially through neglect, and partially through defiance by certain physicians of the Board of Health act, professing that the requirements of the same are an "abridgement of personal liberties," and unnecessary, though the physicians generally have given better attention to this matter this year than during any previous one.

So far as known isolation has been the only means taken to prevent the spread of the diseases named, but through inability to secure the coöperation of the parents, the period of isolation is almost invariably terminated before the period of possible infection has been passed.

The number of births and deaths returned this year have been far in excess of any previous year—not that the deaths of the past year have been more numerous than heretofore, but they have been more generally reported.

My first official act was to call the attention of an ignorant self-styled Indian doctor, who had practiced here unmolested nearly a year, to the medical practice act. After considerable bluster on his part he "folded his tent and silently stole away," and since then another practitioner has registered who had openly defied the law for years. The midwives have been looked after, and six now make regular returns, whereas in all previous years only one ever made returns, and she but twice.

BYRON F. DAWSON,
Secretary Fulton County Board of Health.

GRANT COUNTY.

MARION, IND., October 31, 1888.

C. N. Metcalf, M. D.:

DEAR SIR—In compliance with your recently received request, I would state that Grant County has been fortunate as regards infectious and contagious diseases. A few cases of typhoid fever, diphtheria and scarlet fever have been reported, but at no time has either of the diseases become epidemic, and, excepting typhoid fever, the cases reported have been almost entirely of a very mild form. All cases reported to the local Board have been treated as set forth in the instructions of the State Board, isolation and disinfection were promptly ordered and the physicians as a rule have reported to, and assisted the local Board. The hygienic condition of Grant County, outside of Marion, is good. Good school houses and good water is the rule. There are some out-houses which are not in as good condition as they should be, but better than they used to be. In Marion we have a sewer which empties into the river in the central part of town, also, a creek which runs through the corporation; it is walled up on both sides, and, in the summer, is filled with rank grass and weeds, and becomes a place for the accumulation of filth, offal, etc. These two menaces to the public health continue to be an "eye-sore" to the local Board and could we succeed in doing away with them, we think Marion would compare with any town of her size in the State as regards hygienic condition.

Respectfully, J. H. FORREST,
Secretary Grant County Board of Health.

HENDRICKS COUNTY.

DANVILLE, IND., October 31, 1888.

C. N. Metcalf, M. D.:

DEAR DOCTOR—The sanitary condition of Hendricks County is good. There were no epidemic or prevailing diseases of a contagious nature in the county for the year ending September 30, 1888. There was, however, a good deal of pneumonia during the winter of 1887–8. Indeed, there was an unusually large number of cases, many of them severe and quite a per cent. proving fatal. Occurring thus, in a county not peculiarly the home of the disease, might it not be taken as a mite of evidence in favor of the infectious nature of the disease? Evidently pneumonia is not contagious, but is there not room to believe it to be the result of an infectious miasm, which is developed only under certain conditions of season and weather? How else can its manifestations be accounted for? I remain yours truly,

C. A. WHITE, M. D.

KOSCIUSKO COUNTY.

MILFORD, IND., December 20, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—Your communication of November 28, relative to the sanitary condition of Kosciusko County for the year ending September 30, 1888, is before me. We know of no time in the history of this county when the general health was better than during the past year. There have been no epidemics, although there were thirteen cases of typhoid fever, thirty cases of scarlatina, nine of diphtheria and twelve of measles reported during the year just ended. No reports of smallpox and cerebro-spinal fever were received at this office. Isolation and thorough disinfection were employed in the cases of typhoid fever, scarlatina and diphtheria.

The cause, as far as could be ascertained in each of the above cases, was local in origin.

Respectfully,

I. J. BECKNELL, M. D.,
Secretary Kosciusko County Board of Health.

LAGRANGE COUNTY.

LAGRANGE, IND., October 21, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health, Indianapolis, Ind.:

DEAR DOCTOR—In answer to your circular letter of November 28 I will state that the sanitary condition of this county for the year ending September 30, 1888, has been good.

There have been no epidemics, no unusually large number of cases of typhoid fever and none of smallpox. Diphtheria has prevailed to a considerable extent in the west part of the county. There have been one hundred and eight cases reported and ten deaths, and, with the exception of a few cases, it was confined to the west part of the county. No cause was reported for the outbreak of the disease, and no unusual means beyond the enforcement of the sanitary laws were used to stamp it out.

There were seventeen cases of scarlatina reported from different parts of the county, and five deaths from the same, and eighteen cases of measles, no deaths.

The sanitary condition of our county jail and infirmary is good. If every county in the State could have as good a Superintendent of the County Farm as we have it would be a blessing to the poor that have to live at the infirmary.

The physicians of the county (with few exceptions) are also entitled to mention for an increase of renewed interest in the work of this department and its efforts to proceed with the suggestions of the State Board. Prompt reports have been of material assistance, and the responses to official suggestions have been especially prompt, and to them largely is due the eradication of these diseases mentioned before becoming prevalent.

Yours with respect,
C. Waddell, M. D.,
Secretary Lagrange County Board of Health.

LAPORTE COUNTY.

C. N. Metcalf, M. D.:

Dear Sir—We are unable up to this date to prevent the recurrence of the usual list of contagious diseases. From some cause unknown to me the vitality or virulence of the specific contagium of scarlatina had been attenuated to a degree justly comparable to vaccine virus used to prevent small-pox.

A majority of the one hundred and fifty-three cases reported in this county for the year ending September 30, 1888, were so mild as to be unrecognizable until desquamation commenced or dropsy supervened; consequently isolation and disinfection received little attention, and are entitled to an insignificant degree of credit for efficiency in impeding or suppressing prevalence.

If this form of the disease insures immunity against the disease, as I believe it will, in $\frac{95}{100}$ of the cases an inadvertent neglect of the prescribed prcautionary measures will hardly merit condemnation, and yet it would be unsafe to adopt it as a precedent.

I believe a large number of cases were not reported, because not recognized at all. When the disease was recognized the usual precautions were put in force. Five cases only proved fatal.

Twenty-five cases of diphtheria were reported as occurring throughout the year except in the months of June and August, with one death; measles, six cases, with no fatality; two cases of cerebro spinal meningitis, and two deaths; also three cases of so-called typhoid fever, with two deaths.

In this connection I remark: There is abundant reason for questioning the correctness of the reports of typhoid fever from this locality. In an experience of thirty years in this county I have known of no case of typhoid fever originating here. Because one or more of the symptoms are similar to those in typhoid fever, or of protracted illness or fatality, it is entirely misleading to report typhoid fever when the characteristic pathological conditions are not present. With as much propriety might we insist that scabies was small-pox, or vice versa.

The general health for the year has been good, and the interest and improvement in sanitary measures notable.

Respectfully,
R. O. Crandall,

MARION COUNTY.

OFFICE MARION COUNTY BOARD OF HEALTH,
INDIANAPOLIS, IND., September 1888.

C. N. Metcalf, M. D., Secretary Indiana State Board of Health:

DEAR SIR—In accordance with your request, we make our annual statement in reference to the sanitary condition of Marion county for the year. Since I have been health officer of the county it has been my aim to perform, to the best of my ability, the duties imposed by the office, and shall, I trust, continue to do so while my term lasts.

There is no question but that the sanitary condition might have been far better had there been exercised a larger intelligence in certain localities; still, on the whole, the public health was never better. Although we had during the year five hundred more deaths reported than in 1885, this can be attributed more particularly, first, to the increased growth of the city, and, secondly, to the greater care exercised in collecting statistics throughout the county. In the case of those due from without the city limits, I can safely state that they were the result of an effort to make the returns more nearly what they should be each year by an appeal to the country physicians. Where they have called for cards or flags they have in each case been promptly supplied. The whole number of deaths reported for the year were 2,368; zymotic diseases, 567. Of these, typhoid fever caused 97 deaths and diphtheria 93. While last year measles was so prevalent, and fatal in many cases, this year we have had few deaths comparatively. I think the general health of the city of Indianapolis has been vastly better since the closing up of the gas trenches.

Since the additional buildings at the city hospital the sanitary condition is vastly improved over "ye olden tyme," where typhoid and malarial fevers, owing largely to miserable plumbing and the environments generally, made it unsafe for physicians and attendants to be there in the prosecution of their calling. But now all is changed, and I believe the institution is in the hands of an intelligent class of gentlemen.

At the county asylum the health of the inmates has been good, and the arrangements as good as could be expected taking all things into consideration.

As I have been physician to the prisoners confined in the jail, its sanitary condition has been brought very directly to my notice, and I must say that a crying need in Marion county is a new jail. The plumbing can hardly be improved to advantage in the old building now in use. The odor from the closets is stifling at times, and I am sure that many counties in Indiana have a better jail than Marion, and the need is great here, where sometimes in one month they have one hundred persons confined in very narrow quarters.

M. H. FIELD,
Secretary.

MARTIN COUNTY.

DOVER HILL, IND., October 31, 1888.

C. N. Metcalf, Secretary State Board of Health:

The sanitary condition of Martin County for the year ending September 30, 1888, was very good. There was no epidemic of any kind during the year. A few sporadic cases of typhoid fever and diphtheria were reported.

J. N. SIMS, M. D.,
Secretary.

MARSHALL COUNTY.

C. N. Metcalf, M. D.:

DEAR DOCTOR—I have been a little delayed in answer to yours of Nov. 28, in order to secure the desired information. A case or two of scarlet fever has been reported and a few cases of typhoid fever, which in my opinion is nothing more than typho-malarial, which is not typhoid fever, but we must take them as they are reported. All those cases are isolated and disinfectants used. In typhoid fever some antiseptic is kept in the chamber vessel receiving the discharges from the bowels and then disposed of in such way that no danger may arise from this source. In scarlet fever during the desquamative stage the patient is kept anointed with carbolized oil. This course was recommended by me some months ago and I believe it has been carried out.

The home of the poor and our jail are kept in good sanitary condition. Everything kept neat and clean. The building in which our poor are kept is getting old and some parts are decomposing, especially the floor, which might be made more healthy by some repairs.

The water closets of our jail are washed out when necessary with water from a pipe leading from a large water tank in the upper story, which is filled by a force pump operated by a wind-mill. We now have water-works and a change may be made ere long.

Respectfully yours,
J. H. WILSON,
Secretary Marshall County.

MIAMI COUNTY.

PERU, IND., October 31, 1888.

Dr. Metcalf, Secretary:

I have had difficuly in getting our physicians to make their reports promptly, and the returns of contagious and infectious diseases have been so meager as to be valueless for statistical purposes. I have attributed this negligence on the part of our physicians in part to the healthfulness of our county and its freedom from epidemics during the last year. We have had a number of cases of measles, scarlet fever, diphtheria, whooping cough and typhoid fever during the year, but at no time amounting to an epidemic, and the death rate from these causes has been very light. Typhoid fever and diphtheria in the city of Peru have been confined almost exclusively to families using well water for domestic purposes. Our wells are from ten to twenty feet deep in alluvial soil. The city supplies hydrant water from the Wabash River at moderate cost, and at least two-thirds of our population are using it. This, with good sewerage, has added largely to the healthfulness of our city.

The sanitary condition of the asylum for the poor, jail and school-houses of the county is not what we desire, but is much improved, and is certainly above the average.

Respectfully, etc.,
E. M. BLOOMFIELD,
Secretary Miami County Board of Health.

NEWTON COUNTY.

The sanitary condition of our county has been good in the past year. We have had no diseases of an epidemic character of typhoid fever, small-pox, scarlatina, diphtheria nor cerebral spinal fever. We have had a few sporadic cases of typhoid fever in the county, and diphtheria and scarlatina, but we can not account for their origin. Physicians have been prompt in reporting such diseases.

Respectfully,

J. F. Beckner, M. D.,
Secretary County Board of Health.

POSEY COUNTY.

Mt. Vernon, Ind., October 31, 1888.

Dr. C. N. Metcalf, Secretary Indiana State Board of Health:

Dear Doctor—There has been better attention given to the public health laws during the year ending September 30, 1888, than any previous one.

Epidemics of contagious diseases have not prevailed to any alarming extent, and the mortality has been very small. Attention to good sanitation has had great effect in preventing any spread and reducing mortality of same.

There have been a few cases of cerebro spinal menengitis, scarlatina, diphtheria, typhoid fever and rubeola, also, a few cases of dysentery, but less in number than any previous year.

Physicians and others are very negligent in reporting contagious diseases, and I find it a very difficult matter to keep track of them. "Talk is cheap," and very much "cheaper" in enforcing laws of Health Boards than in anything else.

I would most respectfully suggest that the State Health Officers instruct the different Prosecutors throughout the State to summon physicians and others to give evidence before grand juries in regard to cases of births, deaths and contagious diseases that are unreported. A few indictments and successful prosecutions would accomplish more in this direction than a life-time of talk.

The public buildings of Posey County – Court House, Jail and Poor Asylums —are conducted in accordance with good hygienic principles.

The teachers of the public schools are willing workers in the cause of good hygiene and are prompt and faithful in helping control the spread of contagious diseases. Prof. Stultz, Superintendent of the Mt. Vernon City Schools, deserves especial credit for his prompt and careful methods in dealing with contagion.

Very respectfully yours,

D. C. Ramsey, M. D.,
Secretary.

RANDOLPH COUNTY.

WINCHESTER, IND., October 31, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR SIR—In reply to your letter of inquiry regarding the sanitary condition of Randolph County and the degree of prevalence of contagious diseases for the year 1888, I would say that this county is well situated for good drainage.

White River running through it from east to west and numerous small streams and large ditches emptying into it, and the whole county is being thoroughly underdrained. Almost every pond and lagoon has been drained, so there is but little stagnant water to be found in this county. We are provided with a large, commodious, well located and well regulated county asylum, situated three miles southeast of Winchester on the Winchester and Lynn turnpike on high ground, which affords ample means for the best sewerage, and with but little extra trouble and expense; and a pest-house is located about one-third of a mile from the asylum, and on short notice the County Health Officer can arrange for any epidemic that may occur.

Randolph County has five local boards of health, which act in conjunction with the county board and all the local health officers do all in their power to make the towns as healthy as possible.

The physicians are prompt with but few exceptions in reporting all births, deaths and diseases dangerous to public health. I think the physicians in this county are as prompt to report as in any county in the State, and I think the Judge of the Circuit Court by his first ruling impressed it upon the mind of every physician that it was a great wrong to neglect to make reports as the law requires, and the health officer has insisted that the reports should be made early in the year. There was an epidemic of measles which continued for three months, and seven hundred and fifty cases were reported, twenty-five of which resulted fatally. Thirty-six cases of scarlet fever, thirty-four of diphtheria. Typhoid-fever thirty-one.

The cases of scarlet fever and diphtheria were reported from all parts of the county. That the disease was sporadic in character and not of an epidemic, is my belief. Cases were isolated and disinfectants used as fast as they occurred.

Thirty-one cases of typhoid fever has been reported for the year. Nine-tenths of them occurred in the western part of the county. From what I have learned of these cases of typhoid fever, I think a very small per cent. of them could be classed as true malignant typhoid fever. Quite a number of physicians have fallen into the habit of reporting cases of fever that lasts a week or more as typhoid, when there is no symptoms of typhoid, only the fever.

But the health officer has no legal right to change a report that is made to him. It is the same with some physicians in reporting deaths; if a man or woman dies and there is an effusion of fluid in the abdomen or extremities it is reported as death from dropsy.

During August, September and October malarial fever was more prevalent than for several years, and sulph. quinae has been the sheet anchor.

Randolph county is abundantly supplied with good, pure water, and every family with a small amount of labor can supply themselves with it. Disinfectants have been used in all cases of diphtheria, scarlet fever and malignant typhoid fever, and public funerals have been prohibited.

The sanitary condition of the county asylum and jail is good, and I believe the sanitary condition of the county is improving every year, that the death rate is being lessened, and that great public good is being done by the physicians enforcing the law, imperfect as it is. I made a thorough inspection of most of the school houses and premises last spring, and a large per cent. of them are in good sanitary condition. Those that were not the trustees were ordered to place in a good sanitary condition. I will make another inspection this winter. The trustees have been instructed to hold the teachers responsible for the sanitary condition of their school buildings and out houses.

Would be pleased to receive any suggestions you may think proper to make.

Very respectfully,

J. E. Markle, M. D.,
Secretary and Health Officer Randolph County.

RIPLEY COUNTY.

Versailles, Ind., October 31, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health:

Dear Sir—In reply to your letter of November 28, I would state that the following cases of diseases dangerous to public health were reported:

Typhoid fever	13
Scarlatina	10
Diphtheria	10
Measles	38
Small-pox	—
Cerebro spinal meningitis	—

Two cases of death from varicella were reported from Pierceville March 31 and May 6, 1888. About the same time communications were received from citizens of said place citing me to suspicious cases of small-pox occurring there. I then made two visits at different times, and found what I believed to be small-pox existing in several families. The families were cautioned to adopt precautionary measures. Preventable disease circulars were distributed and quarantine was enforced. The disease was soon stamped out. I will state here that though the family physician did not agree with me as to the type of disease, he recognized its virulence and nobly assisted in all efforts to get rid of it. Typhoid fever has occurred pretty generally over the county, and seems, with the other endemic diseases, to be due to defective drainage and atmospheric causes. The fatality in all the diseases has not been large. Physicians have pretty generally reported promptly to the health officer, and have generously assisted him in sanitary requirements.

The public institutions are all in good sanitary condition. There are no Town Boards of Health in the county. Town officers have been very negligent in regard to the matter. We have good natural drainage, lime stone and a clay sub-soil, and with any reasonable sanitary measures the health of the peeple here would certainly be good. Very respectfully yours,

John G. Jones, M. D.,
Secretary Ripley County Board of Health.

SHELBY COUNTY.

SMITHLAND, IND., October 31, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health, Indianapolis, Ind.:

DEAR DOCTOR—Your circular letter of inquiry in regard to the sanitary condition of Shelby County during the fiscal year ending September 30, 1888, is at hand. I would say the general health of our citizens was very good. I would state, however, during the latter months of 1887 there was quite a number of cases of typhoid, and the so called typho-malarial fever, but on account of our previous secretary not requiring physicians to report their cases of typhoid fever, it would be impossible for me to give the correct number that occurred in the past year. Our county is well drained by various rivers, creeks, also public ditches and under tile drainage. The cause of typhoid fever has been usually traced to contaminated water supplies, such as low well water during a drouth, wells receiving surface water of wet seasons. I have observed in localities where water supplies were from driven wells of sufficient depth, there was but little typhoid fever. It can be truly said that we had no epidemic of any kind during the year ending September 30, 1888. The following contagious and infectious diseases have been reported: Typhoid fever, 11 cases, 18 deaths reported; scarlet fever, 8 cases, 2 deaths reported; diphtheria, 5 cases, 3 deaths reported; cerebro spinal menengitis, 1 case, 1 death reported.

It will be observed in this report that there are more deaths from typhoid fever than cases reported; this I can explain by stating in October, November and December of 1887 there were reported 16 deaths from typhoid fever, during which time not a case was reported. The eight cases of scarlet fever occurred in four different localities in the county two in each locality and from six to ten miles apart; 2 cases in the city of Shelbyville and the others in the country. There is no positive history as to origin. The five cases of diphtheria have been in four different parts of the county, no history. The case of cerebro spinal menengitis was in the northwest corner of the county. In all cases of typhoid fever, scarlet fever and diphtheria I have insisted on isolation and disinfection which has generally been obeyed. I send out health circulars to physicians and families of affected localities, they have usually obeyed my orders, and have done much to stamp out prevailing diseases. I am under the impression that there are some deaths and perhaps dangerous diseases not reported. The number of deaths reported in this county, during the time required in this report, was 255. According to an order issued by the State Board of Health last spring, I investigated the sanitary condition of our county asylum and county jail, a report of which I submitted to the State Board. In that report it will be observed I issued some orders in regard to the sanitary condition of those public buildings and their surroundings. I am frank to say our County Commissioners very readily responded to my orders, and made the necessary improvements; the consequence is but little sickness and no deaths have been reported at those public buildings. I would say in conclusion that we are at present having a general epidemic of measles throughout the county. They are generally mild, except where complicated with some other malady. Physicians say their blanks do not require them to report measles; some report, others do not.

I. W. TREES, M. D.,
Secretary Shelby County Board of Health.

SWITZERLAND COUNTY.

VEVAY, IND., October 31, 1888.

The sanitary condition of Switzerland county is good. The county is well drained, and the health of our people during the past year has been excellent. There has been no epidemic of any kind, except rotheln, though there have been a number of cases of typhoid fever, and several of diphtheria and measles. Some of the physicians have reported promptly the occurrence of contagious diseases, but many of them have failed to do so. There have been no cases of small-pox, scarlatina or cerebro-spinal fever. Where contagious diseases have occurred the cause was unknown. Disinfectants were resorted to and isolation when practicable. The county jail is not well ventilated, otherwise, since some recent changes have been made, the sanitary condition is good. Formerly the gases from the privy vault, to a certain extent, escaped into the jail, which was a good breeder of typhoid fever and diphtheria. The poor asylum is in excellent condition, well ventilated and clean; food good and sufficient. The school houses, cisterns and wells, so far as I can learn, are in excellent condition. For two months last spring rotheln prevailed as an epidemic in this county. As many physicians have not seen the disease, and as the clinical history, as given in our text-books, is very imperfect, perhaps a brief account of it may be of interest. During the past year I saw perhaps one hundred cases of this malady. Premonitory symptoms in some instances were absent, in most cases mild, in a few rather severe. The disease usually manifested itself with slight rigors, in some cases continuing several hours, followed by slight fever, nausea, anorexia, slight headache and occasional vomiting. In many instances the first evidence of the disease was the appearance of the eruption. The malady was milder in children than in adults. In a large majority of cases the patients would not take to their beds or even be confined to the house. In every instance in those old enough to express their sensations, there were rheumatic pains in lumbar muscles, in the large joints, and considerable pain and stiffness in the joints of the fingers. Slight sore throat was a constant symptom. Generally there was frequent sneezing, the eyes watery and conjunctiva congested. There was no cough, but in some cases slight hoarseness. Premonitory symptoms when present seldom lasted longer than twenty-four hours, when the eruption would make its appearance, in some instances first upon the cheeks or forehead, in others upon the chest or back, and traveling downwards, appearing in the course of a few hours upon all parts of the body, except the scalp and the palmar and plantar surfaces of the hands and feet. In some cases the rash had the appearance of measles, in other cases of scarlatina. In some cases on the first day it would look like measles and on the second like scarlatina. The rash would disappear on pressure and reappear as soon as the pressure was removed. The rash was accompanied with burning and itching of the skin, which would continue for several days. The rash would commence fading on the second or third day and desquamation of the epidemic, by furfuraceous exfoliation, gradually ensued for two or three days longer. During this stage there was occasionally profuse sweating. The temperature would range from 99° F. to 101° F. The tongue was moist and of natural appearance, except a slight coat. Vomiting seldom occurred. The disease was more prevalent among children, but many adults were attacked. The disease was so mild that no treatment was required. It was very contagious, scarcely a child in this vicinity having escaped it.

ALBERT G. CRAIG, M. D.,
Health Officer of Switzerland County.

TIPPECANOE COUNTY.

Dear Doctor—The sanitary condition of our county is good in most respects. Drainage is a thing which is creating much attention in the country and city. The country is tiled and ditched, consequently the surface water can not remain long in one place. A few ponds and marshes still remain, but are becoming very scarce. The most of them have become drained and cultivated. Small pools of stagnant water are sometimes found in the ponds and marshes in the dry season of the year. They evaporate, and quite likely cause bilious attacks, which do not prove fatal.

The city of Lafayette is well sewered. A large sewer runs through the city from east to west, forming the main into which smaller ones enter; and the sewerage and surface waters are conveyed to the river. Part of Pearl River has been sewered. Previous, pools of stagnant water were in the habit of collecting to evaporate. Quite a number of cases of typhoid, which proved fatal, also occurred at that time. The doctors disputed as to their cause. I think typhoid is less prevalent since those cess-pools have been drained.

The debris that filled the old canal which skirts the city on the west along the river was removed during the summer. Men wheeled the dirt and slime out to the depth of 18 inches. A pure running stream of clear water is now seen by the observer. This cleansing of the old canal will add health, strength and wealth to the community along it.

In regard to contagious disease I shall add that measles were plenty during the latter months of winter and spring. One fatal case was reported. The measles seemed to be among the most of the families in the city and country. Some few cases of scarlet fever were reported, but none fatal. Typhoid fever has proven fatal in a great many cases. Diphtheria has been with us in a mild form. I think no fatal cases have been reported. Sore-throat has caused some suspicion of diphtheria. It is very mild, but has the symptoms of diphtheria, and very generally visits all the members of the family. It has not been fatal.

Patients who have contagious disease are in most cases isolated from the rest of the family, and the sick room well cared for and disinfected.

Truly yours,

Reub. R. Moffitt, M. D.

UNION COUNTY.

Liberty, Ind., October 31, 1888.

Dr. C. N. Metcalf:

Yours of the 28th, asking report of sanitary condition of our county received. In answer I will say, probably not another county in the State has as little to report; there have been a few cases, but very few, of typhoid-malaria, but not a case of typhoid, scarlatina, small-pox or any of the ordinary contagious diseases reported in the county the past year In our town of 1500 we have had but ten (10) deaths, which is remarkable. But the general sanitary condition of the county and town are watched very closely, especially the public buildings, ventilation, supply of water, condition of privy vaults or any other property that is liable to produce disease; we have a very efficient H. O. in town and he watches everything very closely and enforces the rules promptly.

Respectfully,
E. C. THOMPSON,
Health Officer, Union County.

VERMILLION COUNTY.

NEWPORT, IND., October 31, 1888.

C. N. Metcalf, M. D., Indianapolis, Ind.:

DEAR SIR—In response to your letter of November 28, 1888, in relation to the sanitary condition and the prevalence in epidemic form of diseases dangerous to public health in my county, I will say, the county has been remarkably free from diseases of the above character in any form. The only instance of any of these diseases approaching an epidemic form was at the little town of Dana on the line of the I. D. & W. R. R, as it passes through this county. The town is located in the prairie, with bad drainage. There is no natural outlet for the surface water which is at all sufficient to carry it off. The drinking water is all surface water and during a continual drouth the people in the town and vicinity suffer to a considerable extent from the use of such water.

Last fall there were quite a number of cases of typhoid fever in a radius around the town of say six miles, this circle of course including the town. Scarlatina has had some prevalence in the same locality, but not within the last twelve months. I am not able to make out any other cause of the presence of these diseases in this locality than the bad condition of the drinking water. The officers, whose duty it is to look after the sanitary condition of the town, have been fairly prompt and active in their efforts to stamp out these diseases when they make their appearance.

None of the other diseases mentioned in your circular have had a being in the county since the organization of Health Boards. No cases requiring isolation or careful disinfection have occurred in the county within the year.

I regard the sanitary condition of the county as fairly good, and by close observation I am lead to the conclusion that the laity are posting themselves in sanitary science. The circulars relating to disinfectants and the prevention of diseases dangerous to public health have been sought for and carefully read by the general public in a way that would suggest another general distribution of the same, this office having been without them quite a while.

Respectfully yours,
M. L. HALL, M. D.,
Secretary Vermillion County Board of Health.

TERRE HAUTE BOARD OF HEALTH.

TERRE HAUTE, IND., December 20, 1887.

C. N. Metcalf, M. D., Secretary Indiana State Board of Health:

DEAR DOCTOR—I enclose copy of regulations issued by the Board of Health of Terre Haute, under the advisement of the City Attorney, at whose request I send this copy asking you to endorse it with your signature as meeting the approval of the State Board of Health.

TERRE HAUTE, IND., November 22, 1887.

For the prevention of epidemic, contagious or infectious diseases in the city of Terre Haute, the Board of Health thereof, under the direction of the State Board of Health, hereby make the following regulations:

"No privy vault shall be less than ten (10) nor more than fifteen (15) feet deep, and shall be walled up with brick or stone. Any excavation or vault used as a privy vault now in existence of more than fifteen (15) feet in depth shall be cleaned out and filled with earth, so that in no case shall the depth thereof exceed fifteen (15) feet.

"This regulation shall be in force after its promulgation by publication in the daily papers of Terre Haute for ten days, which publication is hereby ordered.

"Very truly,

"E. C. GLOVER, M. D.,
Sec'y Terre Haute Board of Health.

"I endorse the above.

"LEO. J. WEINSTEIN, M. D.,
"*Sec'y Vigo County Board of Health.*"

Approved by the State Board of Health.

C. N. METCALF, M. D.,
Secretary.

SALEM, IND., January 31, 1888.

Dr. C. N. Metcalf:

DEAR SIR—In reply to your letter of recent date requesting statistics regarding the prevalence of contagious and infectious diseases in Washington County during the year 1888, I submit the following:

Every endeavor has been put forth to induce physicians to report promptly, but without avail. While they, as a rule, are prompt to report *births*, they manifest intentional neglect as regards *deaths* and *contagious diseases*, hence the meager and well-nigh useless data furnished the State Board of Health from this county, It is evident that other means than fear of being fined by the courts will be necessary in order to induce physicians to report.

As regards the prevalence of typhoid fever I have no data from which to draw, as my predecessor did not require reports of such cases except when epidemics were threatened and deaths occurred. However, it was very prevalent in the immediate vicinity of Salem, and especially in the neighborhood of the Salem Lime and Stone Company's quarries, where the workmen procured their drinking water from a surface spring. In the cases of others the cause was evidently impure water. The exact percentage of deaths can not be determined, yet the mortality was high.

But few cases of scarlatina were reported. When the disease did occur isolation and disinfection were practiced, and thereby its spread prevented.

A few cases of diphtheria occurred in the eastern portion of the county, but its prevalence did not amount to an epidemic, as isolation and disinfection were promptly resorted to by the attending physicians.

No cases of smallpox or cerebro-spinal fever were reported or known to have occurred.

A few cases of measles were reported, but in no locality was the prevalence of the disease sufficient to be regarded as an epidemic.

The County Poor Asylum, heretofore regarded as a public nuisance, is, under the present management, in as nearly a perfect sanitary condition as possible, and the inmates are healthy and happy.

The county jail is in a fairly good condition—in fact as good as is possible with the present arrangement for ventilation, heating and sewerage.

The elegant court house, completed within the last year, is a model of beauty, and the arrangement for heating, lighting, ventilation and sewerage perfect.

Very truly,
W. J. Purkhiser, M. D.,
Secretary Washington County Board of Health.

WAYNE COUNTY.

Richmond, Ind., October 31, 1888.

Dr. C. N. Metcalf, Secretary, Indianapolis, Ind.:

Dear Sir—The general health of the inhabitants of Wayne County for the year ending September 30, 1888, has been good, but there have been some local exceptions, for example in the city of Richmond and vicinity, there was during July, August and September an endemic of dysentery more severe than has occurred in the same teritory since 1867. No cause could be assigned for the visitation. About the usual amount of typhoid fever has prevailed generally with a slight increase in the city of Richmond, and the same remarks will apply to scarlatina and diphtheria, while cerebro-spinal fever has not been prevalent in any part of the county and not a single case of small-pox has been recognized in the county during the year.

Isolation has been observed in contagious diseases and disinfection has been fairly practiced. Physisians have not always been prompt in reporting as the law requires.

Respectfully,
Jas. F. Hibberd, M. D.,
Secretary Wayne County Board of Health.

WELLS COUNTY.

BLUFFTON, IND., October 31, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR SIR—Your request of November 28th received. I have frequently requested the physicians to send me reports, but in many instances this has been neglected. From the partial reports and my own observation, can say the health of our county has been fairly good. During the winter months January, February and March we had more lung troubles than usual, there were more cases and deaths from pneumonia than for several years previous. The summer months were ordinarily healthy; we have had an epidemic of diphtheria, began in September; several deaths were reported. There is not the care practiced by the physicians to prevent the spread of disease as there should be. I have made several requests for full reports of births, deaths etc., but the matter does not receive the attention it should.

Yours respectfully,

L. H. COOK, M. D.

WHITLEY COUNTY.

COLUMBIA CITY, IND., December 12, 1888.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—I received your circular a few days ago, and in compliance will give you a brief report of the sanitary condition of Whitley County. I do not remember of the health being better for the last fifteen or sixteen years. There were no cases of smallpox, cerebro-spinal fever, nor typhoid fever reported. Only one case of scarlet fever in Columbia City and one in the county were reported, and both recovered. Measles prevailed in a few localities early in the spring. In April and May there were forty-five cases reported, and five deaths due to sequella and complications. Diphtheria prevailed in Columbia City to considerable extent. In August and September there were ten cases reported, but since that time forty-two cases more were reported, and in all that number only two deaths occurred from laryngeal stenosis. One death occurred in town and one in the country. Four of these cases occurred in the country, three of them one mile north of Columbia City, in two families and one four miles south. All the rest were in this city. This was the mildest epidemic I have witnessed. Four years ago a more extensive and fatal epidemic prevailed in this city. I cannot give the cause or origin of the present epidemic. The cases occurred mostly in well-to-do families, where the hygienic surroundings seemed to be good, therefore I do not think it proper to attribute the cause to filth in the infected houses. The physicians reported promptly and did all they could to prevent the disease from spreading. Flags were promptly put up, disease circulars giving the rules and regulations of the State Board of Health distributed, children from infected families were excluded from the schools, isolation and disinfection practiced. Most of the cases recovered in from five to ten days, and considering the nature of the disease we escaped very well. Columbia City has had for several years a local Board of Health, which has done good service.

Our jail is a fine structure of brick and stone, but recently erected, costing over $30,000, and is in good sanitary condition. Our County Infirmary is a large brick building, situated a half mile west of this city on a large fertile farm. At present there are thirty-five inmates. The average is thirty. The Superintendent is an intelligent, sober, and conscientious farmer, and his wife fills her place as matron quite well. The physician is attentive, and the health of the inmates as good as can be expected. Our Commissioners have employed good men for superintendents and retained them as long as possible, thereby making few changes. The poor are well cared for in this county.

Columbia City has three public school buildings, two of them have been recently erected, are of brick. One is being replaced by a fine structure of brick and stone. The basement is already completed, and early next summer the building will be completed.

South Whitley, Laruill, Coesse, Hecla, Churubusco, Collins and Land all have fine school houses. In fact all over the county the school houses are of modern architecture, substantial and in good sanitary condition. They are usually situated on fine lots on high ground. We have an efficient self-sacrificing, scholarly Superintendent looking after our schools.

Whitley County is drained by Eel River and a number of small streams flowing into it, besides a large ditch recently excavated in the southern part of the county. Eel River has been dredged in parts and otherwise improved. The farmers are draining their swamp lands, so that there is but little waste land left. Where a few years ago swamps existed we now see the finest corn and other produce raised, and malarial fevers have largely disappeared and the health and wealth of our county increased. We have mostly tubular or driven wells, and the best of water. We have but little disease among our live stock.

Respectfully,
WILLIAM WEBER, M. D.,
Secretary.

TABLE A.

Marriages by Months, Color and Nationality, for the Year Ending September 30, 1888.

COUNTIES.	Total.													COLOR.		AMERICAN.		FOREIGN.		NOT REPORTED.	
		October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	White.	Black.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.
Adams	140	8	12	15	13	14	8	12	8	12	11	15	12	140	...	126	132	13	7	1	1
Allen	570	55	58	23	79	38	29	33	52	28	88	37	50	570	...	460	495	98	59	12	16
Bartholomew	166	15	9	10	16	8	27	15	11	9	11	12	23	164	2	157	158	8	5	1	3
Benton	82	11	8	4	15	12	4	4	3	6	4	4	7	82	...	63	58	11	10	8	14
Blackford	84	9	9	11	9	9	5	5	6	1	5	7	8	84	...	84	84	...	...	...	...
Boone	235	26	26	21	23	16	28	21	14	10	7	15	28	234	1	231	230	2	2	2	3
Brown	103	13	10	8	10	11	7	10	7	10	3	4	10	103	...	103	103	...	...	...	...
Carroll	212	32	14	19	26	22	22	23	11	7	15	15	6	212	...	195	196	16	15	1	1
Cass	246	12	22	30	21	30	27	24	13	18	14	11	24	245	1	220	229	21	11	5	6
Clark	336	64	20	37	15	19	23	14	22	30	17	39	36	301	35	336	336	...	...	...	...
Clay	184	21	22	17	7	24	18	13	26	4	14	16	2	176	8	150	156	34	28	...	...
Clinton	239	23	23	29	25	15	18	28	16	11	9	25	17	239	...	239	239	...	...	...	...
Crawford	127	20	6	6	5	8	12	13	5	18	10	7	17	127	...	125	126	1	...	1	1
Daviess	169	24	14	19	14	10	4	13	15	7	14	20	15	168	1	162	164	7	5	...	...
Dearborn	253	85	20	29	14	23	18	24	20	17	17	16	20	253	...	253	253	...	...	...	...
Decatur	199	14	30	28	6	12	19	19	8	14	16	13	20	198	1	190	197	9	2	...	...
Dekalb	200	21	18	25	20	21	17	10	21	7	9	16	15	200	...	191	193	9	7	...	...
Delaware	274	40	29	14	35	18	18	36	12	7	29	14	22	271	3	265	273	9	1	...	...
Dubois	121	19	26	9	17	12	5	...	3	...	5	8	17	121	...	114	119	7	2	...	...
Elkhart	332	33	18	60	22	33	30	23	29	13	23	21	27	331	1	197	194	84	84	51	54

Fayette	67	6	7	8	4	4	7	1	5	9	5	9	2	64	3	64	67	2	...	1	...
Floyd	241	20	26	20	48	26	8	27	15	10	13	7	21	224	17	222	226	16	12	3	3
Fountain	208	25	15	23	23	24	17	12	11	12	10	6	30	208	...	194	198	9	5	5	5
Franklin	99	14	11	8	2	10	3	14	12	1	12	...	12	99	...	87	91	8	4	4	4
Fulton	149	14	16	12	17	19	11	8	6	15	9	10	12	149	...	145	145	2	1	2	3
Gibson	227	26	29	26	20	14	18	12	15	20	16	12	19	212	15	213	214	12	11	2	2
Grant	223	28	24	19	18	18	18	15	11	14	14	20	24	212	11	219	222	4	1	...	...
Greene	133	3	16	21	14	22	14	10	11	1	3	10	8	133	...	128	132	5	1	...	...
Hamilton	232	23	19	15	39	16	8	41	7	3	30	14	17	223	9	228	232	4	...	...	...
Hancock	154	23	12	20	9	14	15	11	6	5	8	13	18	153	1	148	153	5	...	1	1
Harrison	174	26	26	17	17	16	10	16	10	6	4	16	10	172	2	173	174	1	...	...	...
Hendricks	153	9	23	21	14	7	8	19	13	5	10	8	16	151	2	152	153	1	...	...	...
Henry	209	21	16	19	24	16	14	26	13	16	10	19	15	206	3	205	204	4	1	...	4
Howard	183	25	23	15	14	23	18	16	14	15	...	5	15	174	9	179	172	3	4	1	7
Huntington	254	33	29	30	8	20	17	21	11	24	26	14	21	254	...	241	248	13	6	...	...
Jackson	197	18	15	17	21	18	12	34	8	12	21	7	14	193	4	190	195	7	2	...	...
Jasper	96	15	4	4	16	23	9	4	5	3	6	3	4	96	...	93	93	3	3	...	...
Jay	210	26	26	13	19	88	18	21	13	10	16	11	19	207	3	203	204	6	1	1	5
Jefferson	231	34	20	19	13	20	22	34	20	11	8	11	19	231	...	231	231	...	...	...	...
Jennings	123	11	13	16	14	13	7	15	7	7	6	6	8	123	..	121	122	2	1	...	...
Johnson	145	15	19	16	7	13	15	8	9	5	8	15	15	145	...	133	134	1	...	11	11
Knox	309	35	31	30	22	16	17	25	11	25	18	27	52	299	10	309	309	...	...	...	...
Kosciusko	298	36	26	27	31	22	37	24	15	16	18	20	26	297	1	294	294	4	4	...	...
Lagrange	115	11	15	14	9	6	12	8	6	9	6	9	9	115	..	108	112	6	3	1	...
Lake	201	31	18	9	34	13	9	16	10	8	17	15	21	201	...	143	147	58	54	...	...
Laporte	208	21	32	14	18	13	11	19	22	21	8	14	15	205	3	113	116	90	88	5	4
Lawrence	180	23	18	18	25	10	13	14	12	8	6	17	16	178	2	172	179	8	1	...	...
Madison	285	29	26	28	45	21	24	16	16	15	19	30	16	283	2	281	284	4	...	...	1
Marion	1,182	114	122	112	44	77	89	107	90	110	106	82	129	1,103	79	1,007	1,057	164	124	11	1
Marshall	143	...	...	...	15	21	10	24	16	13	15	12	17	143	..	138	139	5	3	...	1
Martin	103	18	9	3	9	7	4	15	7	1	8	7	15	103	...	99	103	4	...	...	...
Miami	200	24	18	12	21	15	19	25	13	9	9	18	17	199	1	192	195	7	4	1	1
Monroe	139	11	14	24	12	10	14	20	5	3	10	7	9	139	...	137	139	1	...	1	...
Montgomery	268	28	20	29	22	21	21	20	16	26	11	16	38	263	5	193	197	8	3	67	68
Morgan	184	14	12	18	26	15	14	20	10	6	17	12	20	184	..	182	184	1	...	1	...
Newton	99	11	6	12	22	10	16	3	3	4	1	8	3	97	2	87	87	11	12	1	...
Noble	161	23	16	13	26	12	10	10	23	9	8	7	4	160	1	145	153	12	5	4	3
Ohio	51	6	5	6	4	6	2	3	4	1	2	6	6	51	...	46	46	2	2	3	3
Orange	137	15	9	21	9	13	12	10	5	8	9	15	11	136	1	137	137	...	...	...	...
Owen	129	15	12	4	20	11	9	17	8	7	10	4	12	129	...	124	128	5	...	...	1
Parke	140	20	21	10	5	11	18	8	6	8	10	12	11	139	1	135	134	5	6	...	...
Perry	177	29	15	2	19	11	14	23	16	9	4	11	24	169	8	158	167	16	9	3	1

TABLE A—Continued.

COUNTIES.	Total.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	COLOR.		AMERICAN.		FOREIGN.		NOT REPORTED.	
														White.	Black.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.
Pike	152	22	16	4	23	13	20	11	8	14	...	3	18	152	...	139	143	4	3	9	6
Porter	125	19	21	3	7	10	13	19	6	6	6	6	9	125	...	92	94	33	30	...	1
Posey	217	18	24	12	12	28	15	23	17	19	8	17	24	196	21	210	213	7	4	...	...
Pulaski	69	6	11	15	...	10	3	8	3	1	1	6	5	69	...	57	61	11	7	1	1
Putnam	191	19	19	19	23	16	14	24	7	10	12	10	18	184	7	186	186	2	3	3	2
Randolph	246	34	18	31	18	33	14	14	9	25	7	23	20	239	7	240	244	5	2	1	...
Ripley	122	22	14	11	16	11	9	10	7	7	4	8	3	122	...	122	122	...	...	...	...
Rush	138	15	15	13	16	14	11	9	4	10	5	10	16	129	9	135	135	2	1	1	2
Scott	76	1	4	8	24	5	3	4	4	3	10	3	7	76	...	76	76	...	...	...	...
Shelby	196	23	17	8	38	15	9	25	7	4	12	21	17	195	1	187	187	1	1	8	8
Spencer	227	30	22	28	12	22	15	24	5	6	26	17	18	209	18	220	226	7	1	...	...
Starke	87	6	9	7	7	4	7	8	12	12	4	6	5	87	...	77	82	10	5	...	...
Steuben	139	18	13	24	10	12	15	11	3	5	11	8	9	139	...	134	137	4	1	1	1
St. Joseph	372	42	45	34	28	28	26	28	31	30	30	30	20	370	2	275	283	90	82	7	7
Sullivan	197	26	16	13	7	17	16	22	14	11	18	22	15	197	...	175	180	16	11	6	6
Switzerland	107	12	13	7	7	12	6	11	2	4	8	11	14	104	3	105	106	2	1	...	...
Tippecanoe	287	22	17	12	27	23	31	27	26	22	30	20	30	284	3	218	218	67	61	2	8
Tipton	191	17	16	24	20	24	16	9	9	12	16	13	15	191	...	165	165	...	...	26	26
Union	53	8	4	6	7	6	2	2	...	5	...	6	7	53	...	51	51	2	2	...	...
Vanderburgh	326	47	44	25	23	24	16	36	26	11	26	33	15	300	26	275	296	45	25	6	5
Vermillion	127	10	14	8	15	5	14	12	6	5	13	14	11	127	...	116	120	6	4	5	3
Vigo	527	91	64	20	72	31	20	55	30	30	65	27	22	507	20	481	445	45	76	1	6
Wabash	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warren	100	11	11	6	22	4	3	9	4	6	20	2	2	100	...	96	98	4	2	...	...
Warrick	114	10	9	6	13	17	12	16	13	5	8	5	...	110	4	87	89	27	25	...	...

Washington. . . .	171	25	12	10	24	10	13	6	8	11	17	17	18	171	. . .	152	157	9	4	10	10
Wayne.	317	30	43	31	26	27	31	19	13	32	12	16	37	295	22	298	306	16	8	3	3
Wells	202	16	19	25	28	9	23	15	4	18	17	16	12	202	. . .	190	200	6	1	6	1
White	121	4	14	20	7	6	12	12	7	9	5	12	13	121	. . .	112	117	4	3	5	1
Whitley	153	26	16	21	11	13	9	12	12	4	11	7	11	153	. . .	131	140	8	5	14	8
Total	18,039	2,054	1,788	1,630	1,734	1,499	1,382	1,613	1,135	1,086	1,272	1,269	1,577	17,648	391	16,432	16,729	1,281	977	326	333

TABLE B.

Number of Marriages in Indiana for Year Ending September 30, 1888.

COUNTIES.	Number.	Grouped Ages.																	
		Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		Over 80.		Not Reported.	
		Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.
Adams	140	6	46	87	75	31	14	11	4	3	...	2	1	...	...	...	...	...	...
Allen	570	3	101	415	378	94	59	30	12	14	6	6	...	4	1	...	1	4	12
Bartholomew	166	1	42	127	102	27	10	4	6	4	3	3	1	...	...	...	...	...	2
Benton	82	1	17	47	51	22	7	5	1	1	...	1	...	...	...	...	...	5	6
Blackford	84	...	42	51	31	28	8	3	3	2	...	...	...	...	...	...	...	...	...
Boone	235	5	68	169	141	36	14	12	6	5	1	1	1	3	...	...	...	4	4
Brown	103	...	8	57	50	17	21	12	7	...	...	...	...	...	...	...	...	17	17
Carroll	212	3	28	148	144	33	22	17	11	7	6	3	1	1	...	...	...	...	...
Cass	246	1	54	155	141	59	32	12	11	15	4	2	1	1	...	...	...	1	3
Clark	336	...	6	61	50	45	60	15	5	...	...	...	...	...	...	...	...	215	215
Clay	184	2	70	133	91	35	17	3	4	5	2	6	...	...	...	...	...	...	...
Clinton	239	65	92	103	119	49	21	16	4	6	3	...	...	...	...	...	...	...	...
Crawford	127	3	59	96	54	17	11	4	2	5	...	1	...	...	...	...	...	1	1
Daviess	169	3	42	100	99	35	20	12	5	4	2	3	...	1	...	...	...	1	1
Dearborn	253	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	253	253
Decatur	199	1	55	148	120	30	9	8	9	8	4	3	...	...	...	...	...	1	2
Dekalb	200	2	49	108	134	70	10	12	4	6	1	1	1	1	...	...	...	...	1
Delaware	274	5	80	194	162	48	21	18	6	5	3	2	1	1	1	...	...	1	...
Dubois	121	5	31	85	74	19	11	6	4	2	...	4	1	...	...	...	...	...	...
Elkhart	332	4	86	237	204	60	22	13	14	9	3	5	1	2	...	...	...	2	2
Fayette	67	...	11	49	45	10	8	5	1	1	2	1	...	...	...	...	...	1	...
Floyd	241	3	52	181	164	36	14	9	4	4	2	3	...	...	...	...	...	5	5
Fountain	208	4	57	145	129	39	8	6	3	5	3	2	1	2	...	...	...	5	7
Franklin	99	...	15	76	74	11	6	3	1	6	...	2	...	...	...	...	...	1	3
Fulton	149	1	31	108	95	26	16	6	6	7	1	1	...	...	...	...	...	...	...

Gibson	227	7	116	146	80	39	19	18	5	11	3	4	...	...	...	...	...	2	4
Grant	223	2	64	148	124	40	18	21	11	8	5	2	...	1	...	...	...	1	1
Greene	133	2	39	90	66	21	21	9	4	4	3	3	...	1	...	...	...	3	...
Hamilton	232	1	60	171	147	43	12	11	2	4	5	2	1	...	...	...	...	...	5
Hancock	154	8	68	114	72	21	5	5	5	2	2	3	1	...	...	...	...	1	1
Harrison	174	3	43	121	102	29	20	10	6	5	2	5	1	1	...	...	...	...	...
Hendricks	153	5	44	106	83	25	15	9	10	3	1	4	...	1	...	...	...	...	...
Henry	209	4	67	148	110	36	21	11	6	5	2	1	2	4	...	...	...	...	1
Howard	183	2	60	136	102	28	9	8	7	5	5	3	...	1	...	...	...	...	...
Huntington	254	2	69	184	150	45	18	12	13	5	2	5	...	...	1	...	...	1	1
Jackson	197	7	61	98	92	59	29	15	7	12	4	2	...	2	...	...	...	2	4
Jasper	96	3	28	64	59	22	5	2	4	3	...	2	...	...	...	...	...	1	...
Jay	210	3	63	150	120	32	13	10	5	8	5	5	...	...	...	...	...	2	4
Jefferson	231	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	231	231
Jennings	123	3	30	77	70	20	14	11	8	8	1	3	...	1	...	...	...	...	...
Johnson	155	...	3	16	16	5	4	2	...	...	...	...	...	...	...	...	...	122	122
Knox	309	3	57	170	157	43	24	17	5	11	2	...	1	1	...	...	...	64	63
Kosciusko	298	3	80	218	181	55	25	10	5	5	5	5	1	2	...	...	...	...	1
Lagrange	115	1	31	88	67	13	10	6	3	3	1	2	2	1	1	1	...	...	...
Lake	201	...	56	149	118	35	10	7	6	6	3	1	2	1	...	1	...	1	6
Laporte	208	...	41	139	133	49	22	8	4	6	6	4	1	1	...	...	...	1	1
Lawrence	180	2	57	133	107	29	9	9	4	4	2	2	1	1	...	...	...	...	...
Madison	285	4	69	211	178	47	21	12	11	8	2	2	1	...	...	...	...	1	3
Marion	1,182	5	214	780	765	257	133	73	38	44	17	12	1	2	...	...	...	9	14
Marshall	143	1	49	96	76	27	5	9	6	4	3	3	1	...	1	1	...	2	2
Martin	103	3	29	67	54	22	12	3	1	3	...	...	...	...	...	...	...	5	7
Miami	200	2	52	147	122	31	18	11	3	5	4	1	...	2	...	...	...	1	1
Monroe	139	9	44	94	82	26	10	8	3	1	...	1	...	...	...	...	...	...	...
Montgomery	268	1	38	141	133	39	17	7	9	9	2	2	2	2	...	...	...	67	67
Morgan	184	5	61	121	104	38	15	7	9	4	2	6	3	1	...	...	...	2	...
Newton	99	...	21	60	44	25	25	11	4	1	1	2	...	...	...	...	...	...	4
Noble	161	1	30	109	106	29	9	7	6	7	2	2	2	2	...	...	...	4	6
Ohio	51	1	6	31	33	6	3	5	1	1	2	1	...	...	...	...	...	6	6
Orange	137	6	44	94	76	23	9	5	3	5	2	1	...	...	...	...	...	3	3
Owen	129	3	41	94	71	17	11	7	3	5	...	3	2	...	...	...	...	...	1
Parke	140	4	44	98	78	25	10	8	4	1	2	4	...	...	...	...	...	...	2
Perry	177	13	57	91	83	41	30	27	2	1	2	2	2	...	...	...	...	2	1
Pike	152	4	62	111	75	16	9	14	1	2	3	5	...	...	...	...	...	...	2
Porter	125	3	25	81	78	24	11	5	10	8	1	3	...	1	...	...	...	...	...
Posey	217	3	56	130	112	50	22	16	11	8	3	4	3	...	...	...	...	6	10
Pulaski	69	...	23	51	41	10	1	3	1	2	...	2	1	1	...	...	...	...	2
Putnam	191	2	47	128	106	32	23	16	7	6	3	2	2	3	...	1	...	1	3

TABLE B—Continued.

COUNTIES.	Number.	GROUPED AGES.																	
		Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		Over 80.		Not Reported.	
		Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.
Randolph	246	11	83	180	139	34	12	8	6	8	4	1	2	2	...	...	...	2	...
Ripley	122	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	122	122
Rush	138	1	28	85	84	34	15	9	4	5	1	1	1	...	...	...	...	3	5
Scott	76	4	30	51	32	14	8	3	2	...	...	...	...	2	1	...	...	2	3
Shelby	196	2	47	135	118	35	15	12	8	3	1	3	...	1	1	...	...	5	6
Spencer	227	1	79	168	108	36	15	6	5	4	1	7	1	1	...	...	...	4	18
Starke	87	1	28	47	31	11	4	5	5	4	2	2	1	1	...	...	...	16	16
Steuben	139	1	39	101	80	28	14	4	3	2	1	1	1	...	...	...	...	2	1
St. Joseph	372	1	91	256	231	69	29	30	15	7	1	4	2	2	...	...	...	3	3
Sullivan	197	3	60	140	114	38	14	7	4	3	2	4	2	1	...	...	...	1	1
Switzerland	107	8	32	63	55	23	14	8	6	4	...	1	...	...	...	...	...	...	
Tippecanoe	287	4	43	180	185	70	37	16	13	10	2	4	2	...	...	...	...	3	5
Tipton	191	8	63	120	83	25	12	5	5	1	2	6	1	1	...	...	...	25	25
Union	53	...	13	43	34	7	5	2	...	...	...	...	...	1	1	...	...	...	...
Vanderburgh	326	2	66	222	213	57	24	23	3	7	2	2	2	...	...	...	...	13	16
Vermillion	127	...	36	75	64	19	11	4	3	3	5	3	...	...	...	...	.	23	8
Vigo	527	7	135	348	307	102	57	38	19	18	4	9	4	3	...	...	...	2	1
Wabash	...	...	...	...	...	...	...	...	6	7	...	2	...	...	...	...	...	...	2
Warren	100	...	33	59	51	28	8	4	...	...	...	...	...	...	...	...	...	...	...
Warrick	114	2	30	77	65	19	14	9	4	6	...	1	...	...	...	...	...	...	1
Washington	171	2	39	104	74	24	21	4	1	1	2	1	...	...	...	1	...	34	34
Wayne	317	4	56	215	207	52	33	28	10	9	7	3	2	3	...	1	...	2	2
Wells	202	2	64	143	105	42	22	12	11	2	...	1	...	...	...	...	...	...	...
White	121	...	27	93	76	14	8	7	8	5	1	...	...	...	...	...	...	2	1
Whitley	153	2	35	110	93	17	17	16	6	5	1	3	1	...	...	...	...	...	...
Total	18,039	314	4,448	11,506	9,849	3.149	1,557	967	533	481	195	227	65	67	8	6	1	1,322	1,383

MARRIAGES.

The whole number of marriages reported for the year ending September, 1888, was 18,039; 17,648 of the contracting parties were white, and 391 colored; 16,432 grooms and 16,729 brides were American; 1,281 grooms and 977 brides were foreign born.

The nationality of 326 grooms and 333 brides was not reported.

There were 314 grooms and 4,448 brides under twenty years; 67 grooms and 8 brides were between seventy and eighty.

TABLE A.

Births for the Year Ending September 30, 1888.

COUNTIES.																COLOR.				NATIONALITY OF PARENTS.					
																White.		Colored.		American.		Foreign.		Not Reported.	
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Males.	Females.	Totals.	Male.	Female.	Male.	Female.	Father.	Mother.	Father.	Mother.	Father.	Mother.
Adams	17	23	26	11	16	17	20	20	16	15	21	24	106	120	226	106	120	. .	. .	180	195	27	12	7	7
Allen	62	42	52	52	66	33	31	34	24	40	47	46	283	246	529	283	242	. .	4	295	350	175	128	53	44
Bartholomew	58	43	41	41	50	45	58	44	45	34	50	40	288	261	549	280	258	8	3	491	526	41	15	14	5
Benton	11	14	15	15	15	22	14	17	26	24	17	18	110	98	208	110	98	. .	. .	201	203	6	3	1	2
Blackford	15	13	16	26	19	22	12	13	11	21	20	16	98	106	204	98	106	. .	. .	204	204	. .	. .	. .	. .
Boone	75	49	45	63	44	28	69	37	37	85	68	52	349	303	652	347	301	2	2	634	639	7	7	9	4
Brown	6	4	4	10	14	17	8	7	5	11	11	4	52	49	101	52	49	. .	. .	101	101	. .	. .	. .	. .
Carroll	71	39	41	31	14	34	66	32	28	44	46	37	258	225	483	258	225	. .	. .	448	459	18	15	13	5
Cass	19	31	27	19	18	17	13	28	40	29	26	35	172	130	302	169	130	3	. .	171	190	55	41	68	63
Clark	24	21	16	31	32	34	37	31	29	35	49	24	187	176	363	185	162	2	14	317	332	40	27	3	1
Clay	80	62	60	35	67	43	27	24	39	37	38	15	274	253	527	271	249	3	4	399	406	128	121	. .	. .
Clinton	23	9	15	31	27	20	19	15	23	20	29	18	113	136	249	113	136	. .	. .	247	245	. .	2	2	2
Crawford	28	24	24	42	36	43	27	24	32	21	34	34	183	186	369	183	186	. .	. .	350	351	1	1	7	6
Daviess	43	57	46	45	76	88	47	51	55	60	59	31	344	314	658	340	307	4	7	633	637	22	18	. .	. .
Dearborn	27	39	17	28	26	30	35	34	28	31	18	29	182	160	342	182	159	. .	1	250	282	66	43	22	13

Decatur	33	28	66	25	26	44	16	23	17	30	38	35	195	186	381	194	186	1	. .	356	369	21	8	. .	. .
Dekalb	14	10	11	12	5	8	16	14	17	12	7	4	74	56	130	74	56	. .	. .	124	125	4	4	2	1
Delaware	69	56	33	68	62	51	73	53	45	54	66	51	361	320	681	347	315	4	5	653	663	12	5	6	3
Dubois	44	46	38	20	21	20	25	33	37	21	28	17	174	176	350	173	175	1	1	306	317	35	29	5	. .
Elkhart	80	67	58	92	58	61	106	56	53	33	31	16	392	319	711	392	319	. .	. .	581	587	50	45	71	70
Fayette	16	18	18	18	18	14	15	15	11	12	29	13	100	97	197	96	91	4	6	178	185	14	8	4	3
Floyd	83	38	52	77	34	31	44	30	45	50	49	39	281	291	572	269	286	12	5	459	506	93	54	14	6
Fountain	29	17	15	32	22	20	18	14	11	20	27	15	122	118	240	122	118	. .	. .	222	225	9	8	7	5
Franklin	17	7	16	15	11	10	22	15	12	28	18	25	108	88	196	108	88	. .	. .	167	179	11	2	17	14
Fulton	9	31	10	51	37	43	30	34	23	24	29	17	185	153	338	185	153	. .	. .	306	310	11	7	17	17
Gibson	38	37	33	55	31	28	28	19	15	43	17	18	174	183	362	162	174	12	14	324	337	11	5	17	10
Grant	24	23	28	30	10	8	57	55	56	6	8	16	164	157	321	161	154	3	3	300	304	9	9	9	5
Greene	30	21	26	29	33	20	19	13	10	24	26	18	144	125	269	142	122	2	3	262	262	5	5	. .	. .
Hamilton	78	43	31	71	39	21	41	43	31	65	39	29	294	237	531	285	232	9	5	515	517	5	4	1	. .
Hancock	30	32	36	36	42	25	31	22	38	36	37	36	232	169	401	232	169	. .	. .	385	392	5	4	8	2
Harrison	15	25	18	51	36	41	25	25	22	37	30	36	179	182	361	177	179	2	3	343	355	15	4	2	1
Hendricks	44	26	36	38	32	35	35	39	32	38	31	26	201	211	412	195	206	5	5	396	400	9	7	5	3
Henry	54	53	41	42	58	57	36	50	38	44	57	48	296	282	578	285	277	11	5	553	564	7	2	12	6
Howard	35	31	37	36	32	31	35	33	20	52	37	32	209	202	411	204	202	5	. .	388	395	10	7	10	6
Huntington	46	30	37	62	53	45	27	35	26	44	43	34	266	216	482	266	216	. .	. .	445	454	29	22	4	2
Jackson	42	43	127	50	51	80	43	33	61	58	40	51	332	347	679	331	345	1	2	623	631	38	31	9	8
Jasper	18	6	17	15	13	25	19	7	19	30	15	17	90	111	201	90	111	. .	. .	180	185	17	12	. .	. .
Jay	39	27	39	32	46	56	58	42	34	50	48	41	265	247	512	262	243	3	4	451	457	10	6	45	43
Jefferson	19	13	9	20	18	21	13	12	8	11	11	13	74	94	168	68	89	6	5	135	145	16	9	17	14
Jennings	25	26	10	47	36	23	20	18	8	35	14	22	136	148	284	132	146	4	2	267	273	11	2	4	7
Johnson	31	42	27	36	34	41	25	23	38	41	35	25	190	208	398	188	205	2	3	382	389	2	. .	11	6
Knox	47	42	43	34	12	54	43	20	23	16	22	26	206	176	382	205	175	1	1	292	292	. .	. .	85	85
Kosciusko	28	18	17	43	46	38	49	36	43	46	30	28	232	190	422	231	190	1	. .	387	405	8	3	21	8
Lagrange	39	20	26	21	32	32	24	17	25	21	26	29	164	148	312	164	148	. .	. .	286	288	12	6	14	18
Lake	34	19	31	31	24	31	34	27	22	44	33	32	191	171	362	191	171	. .	. .	185	235	170	124	6	2
Laporte	51	44	53	49	33	36	44	57	34	71	55	42	291	278	569	289	278	2	. .	281	341	260	213	22	9
Lawrence	19	23	34	34	24	26	17	28	30	26	26	29	176	140	316	173	140	3	. .	312	312	2	2	. .	. .
Madison	65	60	67	72	60	72	54	42	44	85	61	56	379	359	738	378	357	1	2	701	706	9	8	12	8
Marion	235	194	212	220	235	199	190	194	207	250	223	202	1,303	1,258	2,561	1,229	1,197	74	61	1,789	2,025	635	461	102	40
Marshall	. .	. .	. .	37	28	39	46	34	39	35	48	35	173	168	341	173	168	. .	. .	286	293	16	12	35	32
Martin	18	14	25	26	18	17	18	7	6	21	31	23	122	102	224	122	102	. .	. .	206	211	4	1	11	9
Miami	40	16	31	32	34	29	21	21	25	11	22	13	163	132	295	162	130	1	2	250	276	28	12	14	4
Monroe	41	19	19	38	26	17	13	19	16	15	27	24	129	145	274	127	143	2	2	261	270	4	1	7	1
Montgomery	64	47	41	64	47	58	43	32	43	78	53	55	335	290	625	328	288	7	2	580	598	30	16	4	. .
Morgan	31	20	19	31	15	13	12	14	15	36	15	20	128	113	241	128	113	. .	. .	232	232	. .	1	8	7
Newton	14	3	3	20	20	18	21	16	14	15	12	17	90	83	173	90	83	. .	. .	145	143	28	28	. .	2
Noble	25	24	21	23	11	23	13	9	7	18	13	20	93	114	207	93	114	. .	. .	188	193	4	3	13	9

TABLE A—Continued.

COUNTIES.																COLOR.				NATIONALITY OF PARENTS.					
																White.		Colored.		American.		Foreign.		Not Reported.	
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Males.	Females.	Total.	Male.	Female.	Male.	Female.	Father.	Mother.	Father.	Mother.	Father.	Mother.
Ohio	6	5	6	18	11	7	3	3	8	14	9	6	57	39	96	56	38	1	1	92	92	2	2	. .	. .
Orange	33	19	27	45	11	27	22	4	2	26	12	18	138	108	246	138	107	. .	1	240	244	2	. .	2	. .
Owen	24	30	20	20	16	23	19	30	19	20	12	17	132	118	250	132	117	. .	1	236	241	1	. .	9	5
Parke	31	17	14	20	17	10	25	20	14	27	37	19	129	122	251	126	118	3	4	243	248	6	1	. .	. .
Perry	17	16	15	12	10	51	39	25	9	9	13	12	118	110	228	114	110	4	. .	155	157	20	18	50	50
Pike	26	25	32	44	31	21	29	20	16	25	29	38	168	168	336	168	168	. .	. .	315	320	12	7	9	9
Porter	20	15	14	21	23	20	14	12	20	16	20	14	119	90	209	119	90	. .	. .	142	156	65	52	2	1
Posey	62	44	32	62	37	34	43	33	29	55	50	55	298	238	536	291	231	7	7	473	506	49	22	6	. .
Pulaski	7	6	10	10	11	4	7	15	17	7	20	10	72	52	124	72	52	. .	. .	102	107	15	11	7	6
Putnam	40	31	24	47	40	30	32	24	21	59	34	24	204	202	406	197	199	7	3	375	382	16	11	11	9
Randolph	56	58	57	71	63	45	43	38	44	42	67	58	342	300	642	335	293	7	7	621	628	5	4	14	8
Ripley	34	26	24	26	29	18	12	18	14	19	12	11	128	115	243	128	114	. .	1	176	186	66	56	. .	. .
Rush	41	37	30	36	42	37	32	32	24	38	40	26	205	210	415	196	200	9	10	404	407	7	4	1	1
Scott	25	5	7	16	6	8	9	9	9	14	13	7	67	61	128	67	61	. .	. .	128	128	. .	. .	. .	. .
Shelby	72	32	15	104	32	20	47	30	31	75	47	33	277	261	538	274	257	3	4	485	506	14	4	35	24
Spencer	29	22	39	22	42	26	46	40	47	59	44	49	269	196	465	258	183	11	13	433	444	25	14	4	4
Starke	3	3	5	8	4	8	6	5	9	12	2	3	37	31	68	37	31	. .	. .	56	56	8	8	4	4
Steuben	24	18	11	14	10	6	28	10	17	12	6	11	82	85	167	82	85	. .	. .	133	134	9	12	23	19
St. Joseph	47	37	26	50	48	15	27	22	38	30	25	21	198	188	386	195	188	3	. .	217	234	159	146	8	4
Sullivan	25	22	38	39	39	22	35	32	18	42	29	16	180	177	357	180	177	. .	. .	343	346	1	. .	10	8
Switzerland	7	14	9	14	26	10	11	9	6	5	9	9	75	54	129	72	53	3	1	122	125	4	1	. .	. .
Tippecanoe	28	27	20	18	20	17	32	16	23	85	41	30	180	177	357	179	176	1	1	264	265	58	57	34	34
Tipton	23	19	57	52	23	40	43	19	28	33	23	22	183	199	382	183	199	. .	. .	357	362	9	5	12	11
Union	7	6	7	6	7	5	5	4	10	7	8	9	39	42	81	39	42	. .	. .	81	81	. .	. .	. .	. .
Vanderburgh	106	115	80	87	100	91	59	109	58	100	118	102	573	552	1,125	528	507	45	45	759	858	327	242	26	12
Vermillion	25	16	18	13	18	13	13	10	8	19	17	17	86	101	187	86	101	. .	. .	172	181	6	. .	5	2
Vigo	134	69	53	137	74	70	99	54	74	114	75	78	569	462	1,031	557	454	12	8	859	906	133	101	30	15
Wabash	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	82	75	157	82	75	. .	. .	149	152	3	2	2	. .

Warren	37	21	13	19	14	12	17	5	13	. .	. .	6	. . .	. . .	. . .	. . .	. . .	. .	. .	. . .	. . .	. .	. .	. .	. .
Warrick	32	43	18	45	41	26	26	17	28	28	16	23	175	168	343	175	166	. .	2	315	320	24	23	4	. .
Washington	17	14	11	25	21	23	17	13	16	31	20	19	123	104	227	123	104	. .	. .	219	225	6	. .	. .	. .
Wayne	59	56	56	65	52	48	55	68	47	72	87	53	378	340	718	357	326	21	14	599	644	96	64	15	2
Wells	10	10	7	3	1	1	11	6	15	14	11	16	51	54	105	51	54	. .	. .	103	104	1	. .	. .	. .
White	30	25	26	26	26	24	15	23	11	19	11	10	135	111	246	135	111	.	. .	218	230	21	12	4	1
Whitley	11	7	8	12	24	16	19	10	6	36	10	12	74	97	171	74	97	. .	. .	154	160	11	5	3	3
Total	3,410	2,739	2,785	3,522	3,012	2,882	2,942	2,525	2,507	3,357	3,007	2,622	18,345	16,965	35,320	18,007	16,666	338	299	30,343	31,601	3,435	2,697	1,180	850

TAB

Number of Births, Year

COUNTIES.	No. of Children.	Number of Children Born to this Mother.													Under 20.	
		First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth and Over.	Not Reported.	Father.	Mother.
Adams	226	42	40	46	29	22	17	10	3	6	3	4	2	2	2	18
Allen	529	122	97	72	52	40	27	19	11	6	2	8	5	68	1	34
Bartholomew	549	134	110	87	62	40	33	28	17	13	5	11	6	3	4	33
Benton	208	59	33	32	29	14	14	11	7	2	3	1	1	2	. .	15
Blackford	204	46	49	44	30	15	9	2	2	5	. .	. .	1	1	. .	52
Boone	652	168	135	105	62	64	44	27	20	10	4	2	4	7	3	67
Brown	101	25	13	13	9	14	6	7	8	1	1	2	2	. .	. .	4
Carroll	483	124	87	67	47	38	41	13	22	6	5	. .	2	31	4	48
Cass	302	67	65	49	38	19	18	17	3	1	. .	2	. .	23	. .	14
Clarke	363	103	66	66	35	29	21	16	8	4	4	3	2	6	1	25
Clay	527	113	79	79	59	50	59	25	27	18	7	5	6	. .	. .	59
Clinton	249	68	60	48	28	19	11	7	3	4	1	. .	. .	. .	. .	18
Crawford	369	74	58	52	46	35	30	26	15	9	4	3	5	12	5	31
Daviess	658	145	122	104	81	68	44	42	26	11	1	3	4	7	2	53
Dearborn	342	91	75	49	43	29	16	12	9	6	5	1	. .	6	. .	22
Decatur	381	97	69	61	52	29	32	16	4	3	10	2	2	4	. .	32
Dekalb	130	32	33	20	20	13	4	5	1	. .	1	. .	. .	1	. .	18
Delaware	681	170	136	102	85	61	42	36	12	13	5	1	6	12	4	82
Dubois	350	76	53	51	42	31	26	25	25	12	5	1	3	. .	. .	20
Elkhart	711	207	171	102	75	42	28	12	16	9	5	5	4	35	. .	66
Fayette	197	61	40	27	24	10	14	7	9	3	1	. .	. .	1	1	8
Floyd	572	173	113	89	57	32	37	11	18	14	9	3	10	6	. .	41
Fountain	240	67	47	35	23	18	10	13	11	6	4	1	1	4	4	22
Franklin	196	54	39	30	20	9	16	8	7	1	2	2	6	2	. .	10
Fulton	338	77	79	62	43	30	19	10	9	3	5	1	. .	. .	6	27
Gibson	362	61	66	74	51	45	26	11	10	9	2	. .	. .	7	6	107
Grant	321	79	69	58	41	18	23	15	5	4	5	. .	2	2	. .	34
Greene	269	61	47	43	29	24	21	16	11	2	4	3	3	5	2	22
Hamilton	531	105	94	88	77	43	33	36	17	8	6	3	5	16	2	53
Hancock	401	95	67	62	50	33	30	16	27	10	5	1	4	1	5	28
Harrison	361	95	54	57	52	40	13	14	14	3	8	1	4	6	4	29
Hendricks	412	111	77	65	44	34	26	17	16	7	3	3	4	5	. .	39
Henry	578	154	135	87	69	57	26	18	12	11	3	2	2	2	4	49
Howard	411	111	92	65	36	36	26	18	4	8	4	3	5	3	4	47
Huntington	482	136	118	80	51	35	29	11	9	3	6	2	2	. .	3	34
Jackson	679	163	118	92	80	54	51	41	22	20	14	5	10	9	1	77
Jasper	201	44	42	34	20	14	9	14	6	6	3	5	3	1	. .	16
Jay	512	129	99	76	55	56	36	21	4	6	7	2	9	12	3	51
Jefferson	168	48	34	24	14	12	12	3	6	8	1	4	. .	2	1	13
Jennings	284	77	54	36	25	29	11	11	12	6	4	2	5	12	6	22
Johnson	398	109	77	62	34	44	31	18	8	4	6	1	1	3	1	39
Knox	382	91	79	43	59	31	27	18	11	10	6	4	2	1	1	24
Kosciusko	422	122	79	65	42	34	26	13	15	6	4	1	7	8	2	50
Lagrange	312	102	73	45	35	12	10	10	4	3	4	3	. .	11	1	26
Lake	362	73	82	65	42	25	21	14	10	12	6	7	3	2	2	28
Laporte	569	153	126	86	61	43	31	28	15	4	9	4	5	4	3	34
Lawrence	316	89	52	48	41	24	21	6	12	4	4	6	2	7	2	32
Madison	738	200	132	116	73	67	51	29	25	13	15	9	6	2	3	84
Marion	2,561	722	533	418	268	187	151	93	69	33	34	17	14	22	10	210
Marshall	341	100	57	54	34	18	23	18	8	4	7	1	1	16	1	34

LE B.

Ending September, 1888.

GROUPED AGES OF PARENTS.												STILL.		PLURALITY.		ILLEGITIM'TE	
20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.	70 to 80.	Not Reported							
Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Father.	Father.	Mother.	Male.	Female.	Male.	Female.	Male.	Female.
92	140	107	54	16	5	. .	. .	. .	. .	7	7	. .	3	2	2	1	. .
183	342	189	151	62	21	16	. .	. .	. .	72	75	8	8	7	5	1	1
199	304	222	175	82	33	20	. .	5	. .	14	1	15	13	3	3	9	7
79	109	80	67	36	12	6	. .	1	. .	6	5	. .	. .	. .	. .	2	1
83	92	80	45	36	14	4	. .	. .	. .	1	1	.	1	. .	. .	2	. .
260	353	262	182	90	30	12	. .	2	1	20	18	9	6	2	2	4	7
50	54	38	35	11	8	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
198	248	150	127	63	29	19	. .	. .	. .	35	27	. .	1	6	2	6	4
88	114	100	62	28	9	4	. .	. .	. .	74	95	11	5	9	7	4	4
139	201	145	109	57	21	6	. .	1	. .	11	4	. .	. .	2	4	4	4
233	291	199	149	80	28	15	. .	. .	. .	. .	. .	3	. .	. .	. .	1	. .
60	71	91	91	67	67	23	. .	8	. .	. .	2	8	6	. .	. .	. .	. .
127	177	146	112	49	24	12	. .	2	. .	17	14	6	9	12	10	1	8
274	354	270	214	81	25	11	. .	2	. .	15	9	5	4	4	2	6	5
126	173	149	122	48	11	7	. .	. .	. .	8	10	2	. .	6	2	3	1
115	187	166	129	75	25	8	. .	4	. .	8	3	7	3	5	5	. .	3
62	64	42	34	20	10	1	. .	. .	. .	5	4	. .	2	. .	. .	. .	. .
297	372	251	179	82	30	15	. .	2	. .	20	8	8	9	11	9	5	9
107	164	153	123	66	29	12	. .	. .	. .	8	10	2	1	2	6	3	2
261	354	238	157	86	33	24	. .	3	. .	90	92	14	8	9	8	9	7
82	115	80	66	25	5	4	. .	. .	. .	4	2	5	. .	1	1	2	. .
237	321	223	174	78	28	14	. .	6	. .	8	2	. .	1	8	4	2	1
92	117	79	68	36	15	6	. .	2	. .	19	16	8	2	3	1	2	. .
55	86	80	56	29	12	8	. .	1	. .	22	31	1	. .	2	. .	1	2
140	179	113	83	36	23	7	.	4	. .	28	22	6	1	5	3	4	5
180	152	100	72	34	18	15	. .	6	. .	11	3	4	7	7	13	5	5
138	178	110	68	34	15	9	1	. .	. .	27	22	1	2	2	4	10	3
123	150	85	69	40	15	2	. .	3	1	11	11	. .	. .	1	3	3	1
209	283	175	145	86	28	16	. .	5	. .	28	12	15	6	8	12	6	5
148	221	154	119	59	26	17	. .	1	. .	14	4	4	2	5	1	7	1
154	192	124	111	53	21	14	. .	1	. .	10	7	2	1	. .	2	2	3
170	217	154	128	65	27	15	. .	. .	. .	6	4	12	8	2	2	5	4
238	235	211	157	80	27	16	. .	5	1	17	4	7	4	6	6	9	4
149	198	168	120	59	18	6	1	. .	. .	22	24	6	9	2	3	3	. .
207	306	200	126	56	12	7	.	2	1	2	. .	2	1	3	3	3	3
212	277	269	252	122	43	23	. .	7	. .	36	21	16	16	12	5	7	14
72	108	74	62	38	11	10	. .	3	. .	. .	. .	1	2	3	5	. .	. .
200	260	182	138	66	27	10	. .	4	. .	41	30	10	7	7	5	5	8
69	82	58	56	25	8	6	. .	. .	. .	9	9	1	2	. .	. .	. .	2
111	154	91	68	35	15	9	. .	3	. .	27	23	3	2	4	. .	4	3
179	227	136	112	60	10	7	. .	. .	. .	12	7	6	1	3	3	6	2
143	195	137	124	63	21	10	. .	. .	. .	23	13	4	3	6	4	3	1
167	211	158	112	46	19	11	. .	1	. .	31	24	3	1	4	8	2	5
120	175	105	74	33	18	6	.	2	. .	45	19	. .	1	. .	. .	. .	. .
143	213	147	97	47	15	6	. .	2	. .	14	8	4	2	1	1	2	1
227	317	206	184	92	25	18	. .	2	. .	15	3	8	7	3	9	6	3
130	159	103	87	45	20	7	. .	1	. .	26	16	5	1	. .	4	3	5
295	383	273	206	104	39	17	. .	1	. .	29	10	5	7	18	14	5	10
940	1,395	1,048	743	335	111	59	. .	4	. .	130	67	73	60	35	35	47	46
140	172	107	95	45	10	6	.	. .	. .	38	26	3	. .	5	3	1	1

TABLE B

Number of Births, Year

COUNTIES.	No. of Children.	NUMBER OF CHILDREN BORN TO THIS MOTHER.													Under 20	
		First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth and Over.	Not Reported.	Father.	Mother.
Martin	224	57	41	33	28	14	11	16	10	8	3	. .	1	2	1	19
Miami	295	77	66	49	30	25	19	6	7	4	6	1	. .	5	. .	19
Monroe	274	72	42	39	32	22	19	24	10	5	2	. .	5	2	2	27
Montgomery	625	165	130	106	75	56	31	16	20	8	7	3	7	1	3	49
Morgan	241	73	34	47	21	16	19	7	6	2	2	1	. .	13	5	40
Newton	173	41	37	24	21	10	12	6	15	4	1	2	. .	. .	. .	16
Noble	207	53	50	33	20	17	14	7	5	2	. .	. .	4	2	1	21
Ohio	96	37	18	10	14	8	3	. .	. .	2	2	1	1	. .	9	14
Orange	246	65	44	34	32	23	14	13	4	3	3	2	2	7	1	29
Owen	250	54	59	40	32	17	10	14	4	4	5	1	5	5	. .	19
Parke	251	57	53	44	26	32	7	9	5	8	1	1	4	4	1	14
Perry	228	44	44	42	32	21	15	8	10	3	4	2	1	2	. .	10
Pike	336	86	54	59	34	23	22	19	10	8	5	7	2	7	1	42
Porter	209	61	41	31	21	12	20	7	6	5	3	1	1	. .	1	18
Posey	536	96	98	94	62	47	47	30	15	11	10	4	7	15	1	32
Pulaski	124	35	19	19	11	12	9	5	3	2	3	. .	2	4	. .	12
Putnam	406	108	92	56	39	31	24	18	8	14	6	3	7	. .	2	43
Randolph	642	178	116	113	73	49	41	27	23	7	8	2	4	1	12	91
Ripley	243	59	41	41	25	24	19	11	6	5	5	3	4	. .	9	34
Rush	415	102	76	70	83	31	30	17	13	6	4	5	6	2	. .	31
Scott	128	31	19	16	16	17	11	4	5	4	1	1	3	. .	. .	10
Shelby	538	143	98	90	61	42	32	20	18	11	6	7	10	10	5	49
Spencer	465	118	68	66	48	40	41	23	28	9	2	2	2	18	2	42
Starke	68	21	10	13	5	7	3	6	. .	1	. .	2	. .	4	. .	8
Steuben	167	53	31	38	16	9	7	5	2	1	1	. .	. .	3	2	13
St. Joseph	386	80	64	78	53	34	28	19	11	5	10	. .	. .	4	2	22
Sullivan	357	94	70	55	42	25	24	11	9	6	. .	4	2	15	4	36
Switzerland	129	40	20	21	14	9	5	5	11	1	. .	. .	. .	3	. .	13
Tippecanoe	357	127	73	54	33	11	15	11	11	3	2	2	5	10	1	23
Tipton	382	109	58	60	38	26	28	27	9	7	4	5	4	7	3	49
Union	81	29	17	10	13	4	1	1	1	2	3	. .	. .	.	. .	16
Vanderburgh	1,125	292	206	180	108	79	74	57	41	19	12	12	22	23	4	77
Vermillion	187	53	40	31	26	5	7	7	6	2	1	2	2	5	.	23
Vigo	1,031	285	206	163	104	66	47	54	30	18	14	7	8	29	11	104
Wabash	. . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Warren	157	49	33	24	19	8	9	6	1	2	2	. .	1	3	. .	10
Warrick	343	87	61	59	44	20	23	14	8	10	5	4	5	3	2	31
Washington	227	72	39	28	26	20	16	11	4	1	3	2	. .	5	. .	10
Wayne	718	206	141	115	79	63	38	22	21	11	10	4	4	4	4	54
Wells	105	27	16	20	10	13	6	5	5	1	. .	. .	. .	2	2	9
White	246	69	47	41	30	16	16	10	3	5	. .	4	3	2	2	24
Whitley	171	59	31	24	19	17	7	7	2	2	2	. .	. .	1	2	11
Total	35,320	9,189	6,828	5,595	3,959	2,807	2,206	1,499	1,051	602	420	247	305	612	199	3,215

—Continued.

Ending September, 1888.

GROUPED AGES OF PARENTS.												STILL.		PLURALITY.		ILLEGITIM'TE	
20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.	70 to 80.	Not Reported							
Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Father.	Father.	Mother.	Male.	Female.	Male.	Female.	Male.	Female.
81	111	75	63	38	11	5	. .	1	. .	20	17	2	2	3	3	6	3
125	177	104	89	37	14	6	. .	2	. .	18	3	12	3	5	1	4	4
77	91	64	52	35	20	7	. .	3	. .	84	82	6	3	3	1	6	7
238	323	223	198	113	38	19	. .	4	. .	14	6	16	6	11	11	7	2
115	114	67	59	28	12	7	. .	1	. .	17	15	3	3	. .	2	4	2
71	99	64	48	29	10	8	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .
72	100	78	52	21	11	4	. .	. .	. .	29	21	1	2	3	1	. .	1
48	54	20	19	16	7	1	. .	. .	. .	. .	. .	1	. .	4	. .	. .	. .
109	113	75	77	33	14	5	. .	4	. .	17	11	7	2	4	. .	2	2
100	141	90	64	33	16	9	. .	1	1	12	6	6	. .	2	6	3	1
91	140	96	64	39	13	5	. .	1	. .	16	18	2	. .	2	2	. .	. .
69	125	97	55	30	19	10	2	. .	1	18	14	. .	1	4	2	4	. .
147	180	110	88	48	14	11	1	. .	. .	15	7	5	1	3	5	2	5
82	108	79	70	35	13	6	. .	3	1	2	. .	5	3	. .	. .	1	2
185	275	232	184	77	27	17	. .	1	. .	15	10	6	8	12	4	6	8
39	61	46	34	24	9	5	. .	. .	. .	10	8	2	2	. .	. .	2	2
163	209	146	108	66	33	14	. .	. .	. .	11	9	2	1	2	6	2	4
279	360	260	168	68	13	12	1	1	. .	8	7	1	3	3	1	1	5
63	104	86	80	49	17	21	. .	. .	. .	14	7	. .	. .	1	1	2	5
131	220	188	114	52	16	12	. .	. .	. .	29	31	9	4	4	2	4	6
45	64	54	40	19	14	9	. .	. .	. .	1	. .	3	. .	. .	. .	. .	1
203	278	193	149	76	27	11	. .	1	. .	45	31	9	8	3	5	7	6
164	204	144	106	66	24	13	3	1	. .	72	83	4	5	3	3	3	1
25	38	27	14	10	4	1	. .	. .	1	4	4	. .	. .	. .	. .	. .	. .
52	77	66	47	18	2	2	. .	. .	. .	25	26	3	2	2	2	2	. .
146	223	159	120	60	15	9	. .	1	. .	7	4	3	2	2	2	. .	1
161	208	100	72	43	19	8	. .	2	2	34	19	1	2	4	2	2	4
46	70	48	30	16	3	4	. .	. .	. .	12	10	. .	2	4	2	1	2
137	176	109	81	46	21	12	. .	. .	. .	51	55	3	1	1	1	1	. .
160	187	131	108	61	26	12	. .	. .	. .	11	8	4	2	4	4	6	1
41	39	30	24	5	2	3	. .	. .	1	1	. .	. .	. .	. .	. .	1	1
422	600	412	314	163	70	29	. .	11	1	70	51	40	23	14	12	8	15
64	95	80	47	29	11	2	. .	1	. .	7	7	3	. .	3	5	1	1
401	549	399	296	143	49	23	2	1	2	36	16	42	27	18	12	15	16
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
74	98	49	40	26	5	2	. .	. .	. .	3	1	1	1	1	5	. .	1
150	184	125	104	42	17	9	1	2	. .	13	6	1	. .	. .	. .	2	4
86	96	40	46	29	5	2	. .	. .	. .	68	68	1	. .	4	. .	2	1
273	385	289	230	110	41	18	. .	3	.	13	. .	16	8	6	10	12	7
47	54	40	34	11	6	3	. .	. .	. .	2	2	. .	. .	. .	. .	. .	. .
111	155	83	54	30	9	10	. .	2	. .	5	1	5	3	6	. .	1	3
85	97	53	54	23	5	3	.	. .	. .	2	1	3	5	2	4	. .	1
13,691	18,414	13,089	9,980	4,958	1,848	947	12	143	14	1,957	1,509	541	370	379	338	336	331

BIRTHS.

The total number of births for the year ending September 30, 1888, was 35,310. Of this number 18,345 were males and 16,965 were females; 637 were colored and 911 still-born.

There were 348 twin births and 7 triplets; 667 of the children were illegitimate.

The smallest number (2,507) was born in June, and the greatest number (3,522) in January.

The nationality of the parent was as follows: 30,343 fathers and 31,601 mothers were Americans; 3,435 fathers and 2,507 mothers were foreigners; 1,180 fathers and 850 mothers were not reported.

SUPERSTITION, AND ITS RELATION TO DISEASE AND DEATH.

BY BYRON F. DAWSON, M. D., KEWANNA, INDIANA.

It is a truthful metaphor that "superstition springs eternal in the human breast."

The desire to ascribe a cause to every occurrence led the very early ancients into a custom which has continued down to the present moment, and which is quite universal. Primitive races, the children of humanity, did not know what caused the warring of the elements, and to explain it they drew upon their imagination, and they believed what their fancy supplied. Thus they flitted from one point to another to and through the whole range of human affairs. To-day nearly every occurrence, trivial or great, is connected with a "sign," largely ascribable to supernatural agencies—cause and effect so remote that the gap could not be wider.

The weather, the crops, and the affairs of the human body have received by far the greater share of attention, and many are they who are scarcely free moral agents so completely are their daily lives regulated by the popular superstitions of the present time.

In early times no one would begin any great undertaking without first consulting the oracles, and amulets were generally worn as remedies or preservatives against evils or mischief.

So thoroughly has this custom been ground into the present generation that in season it is an every-day occurrence to see mothers who consult the patent-medicine almanac to see when to set the hens, to pick the geese, to make garden, or to wean the baby; or to see children, and often adults, wearing a red string about the neck to prevent bleeding of the nose, or with a bag of assafœtida about the neck to prevent an attack of some contagious disease, or an adult carrying a potato or a horse chestnut in his pocket for the cure of rheumatism (which he never had), to which he ascribes great virtue, or the carrying of salt in the shoe or half an onion under the arm to cure ague. During epidemics of whooping cough the air at rural public gatherings is often rank with the odor of the fetid gum.

Ominism, or the belief in lucky and unlucky times, signs and prodigies, is quite prevalent among the poor and uneducated, but it is by no means confined to them. One of Stephen Girard's rules was never to have anything to do with an unlucky man. The Rothschilds will not employ a man who has a reputation for ill-luck; and it is said the mother of the Rothschilds always lived in her queer little house, in a crooked street, "to keep her sons in luck." Every morning servants took her to their homes in a sedan chair, but she always slept in the house where they were born. Cromwell believed September 3d was a lucky day, while Napoleon trusted in December 2d. Alexander the Great would begin no great undertaking on the day on which he would by mistake put the right shoe on the left foot. Ben. Johnson was very superstitious. A. T. Stewart imagined his fortune was bound up in a lttle old apple woman who had a stand in front of his store, and when he moved up-town it is said he personally superintended the carrying of her effects to a new stand outside his store. Stewart looked upon her as a mascot, and he often said that when she left the place his good luck would go with her, and so it was. A few months after this Stewart began to decline, and the apple woman was hardly forgotten before he was in his grave.

It is possible some medical men and women may share in these senseless beliefs, but generally they are above such influences. Superstition and ignorance go hand in hand, and a fruitful search for one will find both.

It is not my purpose to make it appear that sickness is largely caused, or that the mortality rate is greatly increased by popular superstition, or that such a disease is deserving of a place in our nosological tables, but it can be demonstrated that both are influenced to a considerable extent thereby. So firmly do some classes believe in charms against disease, that for certain ailments they do not think of consulting a physician, and as an illustration may be named infantile atrophy, or "decay of the flesh," as it is popularly called. In this region the only salvation for an infant supposed by its parents to be thus afflicted, resides in the meaningless pow-wow of some old neighborhood granny, or being "measured" by a person to whom has been popularly ascribed *wonderful* power over this disease, and as—

"To dream of a ponderous whale
Erect on the tip of his tail,
Is the sign of a storm,
If the weather is warm,
Unless it should happen to fail"—

So this is an *infallible cure* except where it fails, which is more often than it succeeds. Infantile atrophy is a disease due to the administration of food poor in quality or deficient in quantity, or malassimilation, or two or more of these causes coöperating to bring about the one effect, and no means under the sun can restore the child to health if these conditions remain uncorrected, and they are not susceptible to the influences named, nor can they be. If the child's habits of life are changed, the veriest nonsense displayed at the proper moment may appear to work wonders, and a poor ignoramus be raised to honor. To my personal knowledge children subjected to this ordeal have perished that might have been saved had they been under the care of a competent physician. Even if the child does not die before the proper aid is summoned it may have been reduced to such extremes as to be entirely beyond help, or fall a ready prey to other diseases.

In summer diarrhœa the lives of children are often jeopardized by the very foolish and dangerous belief, that nothing can save the child if it is attacked during the waning of the moon, but if attacked during the waxing of the moon the sickness will be of short duration and the child be soon again restored to health. This no doubt results in an occasional death among the very ignorant, with whom the superstition is current.

Many intelligent people and otherwise of sound mind believe that any case of severe illness will result fatally if the patient first shows sign of improvement on Sunday, and others that a person can not die if any door in the house is locked, or as long as the doors and windows in the room in which he is lying are closed, and death may occasionally occur from neglect through fear and reverence of these fallacies.

Others believe they can "blow the fire from a burn" or stop hemorrhage by the repetition of scriptural passages, and I have known of both being tried in cases of considerable severity.

The faith cure is a form of delusion that appears at irregular intervals, usually without any especial reason or cause. Modern faith-healing has many enthusiastic advocates, one whose home has been in this county having attained an almost national reputation. I am fully persuaded that the day of miracles has long since gone by, and that what is called faith cure and christian science cure should be called christian science fraud, for there is nothing in it, and those who have apparently recovered under its influence were only malingerers. I make no apology for my position, nor do I compromise with those who believe in such powers. There is a sect in this county whose members refuse to summon medical assistance during sickness, and several deaths have occurred which neighbors believe are purely traceable to this neglect.

Voudooism is a form of medical superstition and quackery quite commonly believed in and practiced by the colored people in the cities, and is the cause of many deaths.

Not long since the medical journals gave particulars of a horrible murder by six members of one family of an idiotic boy of thirteen years of age, whose body they threw into a yard adjoining the house. The mother of the boy confessed to having an hallucination, that so long as he lived, the family would be subject to evil influences, and on this account acknowledged the killing of her son with a hatchet. Such cases are very frequent, and whatever is not jealousy or frenzy is due to superstition, as in this case.

Elsewhere in a journal I find reported that a physician was called into the country to see a sick girl. He prescribed, and the medicine was had, but the patient became worse, and in a few days died. The doctor now found that the medicine had not been given. The father, upon inquiry, gave the following reason why the directions had not been followed: "Doctor, I thought it would be of no use to give her the medicine; our dog howled so of nights that I knew she would die." The man was ignorant enough to believe in the old superstition that if somebody is sick and a dog howls near the house at night the patient will surely die. His belief in this was so strong that he would give her no more medicine, but called in one of those so-called faith-cure women, who was allowed to exercise her mystic influences and passes over the sick girl. Such occurrences are not infrequent, for this is a very common superstition.

Only recently the following occurred in my own practice: While attending an infant seriously ill with pneumonia the father, a farmer, said he would give no more medicine if his clock "alarmed." Inquiry elicited the fact that the timepiece in question was a wooden-wheeled clock, nearly a century old, which kept very poor time, but it had been possessed and in turn condemned by several families in which it had one or more times given an alarm, which same always preceded by but a short time deaths in the several families, and gave alarms at no other times. In this case the clock did not alarm and the child did not die, but there was no causative relation between the two events, nor could there have been had the result been different.

The following is given to show how very complex some of the form-cures may become, though the disease named, herpes zoster, very rarely has a fatal termination: A middle-aged fisherman was seized with a somewhat sharp attack of an eruptive disease, popularly known by the name of shingles, which, according to the local wiseacres, could be cured only by an application of blood drawn from a black cat with a knife or other instrument with which the umbilical cord of at least seven male children had been divided, and applied with a feather from the wing of a black domestic hen which had hatched not less than three broods of chickens. To this sanguinary ordeal the patient, at the solicitation of his friends, agreed to submit, with becoming resignation and unquestioning faith in its efficacy. Having been undressed and laid on his back with his head towards the south, operator A walked around him three times with the cat, in accordance with the course of the sun. He then held the cat over the patient's breast, while B, with the proper instrument, cropped its right ear, and, as the blood trickled on the sufferer's breast, besmeared it over the affected parts with the feather from the black hen, at the same time muttering incantations in the vernacular. Failure, of course, was the only result, but still strong in the faith he prepared to undergo a repetition of the ordeal.

The colored people are probably more superstitious than any other race, and signs and omens cut no small figure in their daily lives. The following are a few of those they trust in: To hear a whip-poor-will in the day time is a death sign to some person, and that person is not going to die in bed; when a rooster turns his face towards the house and crows into the door, death is going to come in at that door and take out whom he wants; when wild birds take to fluttering and flittering around the house somebody in that house is going to perish.

To medical men who know the utter folly of the practices and beliefs named it becomes a duty to undeceive superstitious minds and teach that, though medicine and good nursing will not always save the sick, it must be one of the rarest possible circumstances for any of these means to accomplish any good, for there is not an element of truth or plausibility about any of them.

STATE OBLIGATION IN ITS RELATION TO PUBLIC HEALTH.

T. HENRY DAVIS, M. D., RICHMOND, IND.

The purpose of this paper is not so much to convey any new idea, as to call the attention of those most interested to a subject that is sometimes overlooked, viz: State obligation in its relation to public health. The principle of mutual protection existed long prior to the formation of government. To secure the best interests of man is the purpose of government, and to maintain them should be its highest aim. To be more explicit one object of government is to "impose that degree of restraint upon human action which is essential to the uniform enjoyment of private rights." This feature constitutes the police power and will hereafter be alluded to. Among all civilized nations laws have been perpetually enacted, the purpose of which was to modify or remove the causes that induced disease. The kingdoms of the old world are prolific in statutes relating to public health. The common law of England prevailed exclusively until the public health act of 1848 and 1872, but the act of 1875 consolidated all previous laws relating to sanitary affairs, and it remains in force to this day.

In our own government every State has the inherent right to frame public health laws, and availing themselves of this right, some thirty-one States have enacted laws whose purpose is, as far as practicable, to prevent the operation of those untoward influences that impair the health or shorten the lives of its citizens by disease. Hygiene is one of the corner stones supporting the superstructure of a Nation or State. The rise and fall of empires, presumably due to varied causes, may also be discovered to record the observance or failure to observe the laws of health. The crude nations of Sparta, looking only to the "survival of the fittest," and the boasted laws of ancient Rome, each established a land mark in history. The subject of hygiene is one both broad and deep—broad as humanity and deep as human interests. It embraces all conditions affecting the individual; from a period long prior to conception, and until "dust returns to dust."

Interests, social, commercial and political, are alike involved; in a word, all that depends upon life and health. The philanthropist and the statesman are equally interested in its universal application. I may not follow this thought. Suffice it to remark that the importance of a commonwealth depends upon its capital and the relative proportion existing between its productive and non-productive population. Human life is the most valuable capital possessed by the State, and all reasonable outlay should be made to sustain it. The proportion of productive and non-productive population is, to a great extent, regulated by the *average* of public health. Hence it follows that to preserve its capital and render it most remunerative, the State should, at whatever expense, perfect its sanitary control. It is not the purpose of this paper to refer to details, but to point the direction. Cheap sanitation is exemplified at the Treasury Department at Washington, and in the insanitary condition of many buildings in several States under public control. To wear clean linen over an ulcerated surface is not *personal* health, and to present the external appearance of municipal cleanliness where sanitary defects are concealed instead of remedied, is not public health. This condition of affairs is frequently the result of poorly paid sanitary supervision. True economy results in procuring the best available talent, and rewarding it in proportion to its importance. Armies and navies are maintained at an expense of millions, and the police power of a State at an enormous cost. Yet no enemy is more certain to come within the outposts and materially affect our State commerce and manufacturing interests than dread disease. Hence the necessity for a well drilled and properly equipped sanitary force to give it battle. Specialists who grapple with disease in a single organ are amply paid. The physician in general practice, whose province is to attempt the cure of disease, receives a recompense in proportion to his merit, while the Health Officer, be he one of State, county or town, who by his skill and executive ability prevents the encroachments of disease, receives his stinted salary presented by a grudging hand. The public school fund of the State, aggregating $9,500,000, is cheerfully provided by the taxpayers, and this is to prepare the mind for the battle of life, while the paltry sum of $27,000, including State and county appropriations, is devoted to sanitary purposes, as though mental culture outranked physical in importance. Of what purpose is mental energy when handicapped by a physical organization unable to sustain its activity? We would not lessen the former expenditure, but would increase the latter.

Pleuro-pneumonia in cattle, and cholera in swine, are questions that properly engross the attention of legislatures, but often, at the same time cities are being decimated by a score of preventable diseases, and Boards of Health left to stagger along in solitude, unappreciated, except in time of peril and always under-paid. A pretence of sanitary effort in any community, is more dangerous than positive neglect, as a pretended friend is more to be feared than an avowed enemy. Society must have confidence in its teachers, and where an appointment is made simply as a matter of political preferment it oftentimes fails of its purpose. As trained nurses are essential to the best results of surgical aud medical effort, so sanitarians especially drilled in the work entrusted to their hands, are demanded by the requirements of to-day. To bring about a better state of affairs, I know of no more certain plan than to have frequent and widely distributed publications emanating from State Health authorities, giving specific directions in matters pertaining to preventive medicine. Such information as we possess in reference to infant feeding, school hygiene, precautions to be observed in certain contagious and infectious diseases, house building, ventilation, heating and drainage, these and kindred subjects while familiar to some, are to the masses confused. Free distribution according to a fixed method would do much to mould public sentiment. A safe principle for the State is to govern less and enlighten more.

Argument is hardly demanded to demonstrate the assertion that where intelligence and hygienic surroundings prevail, prosperity smiles upon human effort, whereas in their absence, the hands are set back on the dial and the strength of community is but weakness. As a question of political economy it is estimated by competent authority that one hundred and fifty thousand annually die from preventable causes, and that one hundred and sixty million dollars are annually lost to the Nation from preventable sickness. The money value of human life and physical vigor has been closely approximated, and as above stated, the annual loss is estimated by millions. As an illustration, the single epidemic of small-pox in 1871 cost Philadelphia twenty-four millions, and the recent typhoid fever at Plymouth was attended by a loss of hundreds of lives, originating from a source that might have been stayed by a single hand. The history of pestilence everywhere is not only one of groans and tears, but, also, one of incalculable financial loss.

While Congress exercises sanitary jurisdiction over sea, lake and water courses generally, army, navy and inter-State commerce, as before remarked, it is reserved to the State to preside over the health of the people within its borders. It should, therefore, for reasons of utility if for no other reason, manifest the deepest interest and make most liberal expenditure to promote State preventive medicine. The State can accomplish what no mere assemblage of individuals would undertake by wise sanitary legislation and such appropriations of money as may be demanded by the importance of the subject. Quarantine, with all its imperfections, has saved its thousands, vaccination, with its attendant risks, its tens of thousands, while disinfection, incomplete though it be, has lulled into eternal sleep a myriad germs of diseases. It is evident the State should vary from its custom and select its sanitary agents with reference solely to special fitness and ability rather than political complexion, and rotation in office should be the exception rather than the rule. The highest order of mind and training is required, and a premium should be placed upon it by the State. Legislation should not be too specific, as the purposes of boards of health are often thus thwarted. Sanitarians do not abound in Legislatures, and statutes framed by one exclusively trained in the law are frequently practically inoperative. Again, statutes have their limitations, and are always difficult of enforcement when too far in advance of public opinion, hence the necessity for a widespread general intelligence in reference to sanitary affairs.

It is true we are yet groping in the uncertain light of the breaking day, yet it is equally true that we are making rapid strdes in the direction of knowledge, and, with the systematic application of present information, a vast good may be accomplished. It should be the duty of the State to keep pace with advancing knowledge and provide ample means for its general distribution and application.

Whenever the State is in advance in these affairs and faithful to its obligation, individual effort will respond, voluntary sanitary organizations will multiply, vital statistics, as now compiled a farce, will become accurate, and thus one by one the threads will be gathered and woven into a more perfect pattern.

THE VERIFICATION OF DEATH.

BY WM. B. CLARKE, M. D., INDIANAPOLIS.
[Secretary State Homœopathic Medical Society.]

There is a growing impression that the verification of death is not carefully enough attended to by a majority of physicians, and the general public seems recently to have inclined to the belief that burial alive is getting to be of altogether too frequent occurrence, thus giving origin to much of the growing and commendable popularity of cremation. The unfortunate case of Mind-reader Bishop in New York, May 13, stimulated the press of the entire country, if not the world, to a study of the subject of the verification of death, as well as a presentation of a formidable array of cases of premature burial or narrow escape from such a harrowing fate. It seems to be plainly proved that cases of suspended animation are quite common. A Chicago physician—Dr. Tanner, the noted faster—is keeping a record of the discovered cases reported in the newspapers of the country this year, and finds that they average one a week. I do not believe that burial alive occurs very often, but think it fair to assume that death occasionally occurs after the person has officially been pronounced dead, and where, if proper care had been exercised, animation would have returned and life been preserved. I have verified several such cases of preserval, but forbear adducing them for want of space. So we must also raise a warning voice against the too-early ministrations of the Coroner (who is not a physician always, as, for instance, in New York) or the undertaker—more especially his partial embalming by injection of preserving fluids, or packing on ice, as is so often done in a few hours, oftener to non-residents of the locality of the demise, usually by telegraphic instruction. Electricity is used too recklessly in many cases of suspended animation or sudden death. The vital spark may still remain, feeble though it be, to be coaxed into a flame, but a strong current of electricity may forever extinguish it, and I fear has repeatedly done so. (*Vide* Indianapolis News' New York telegram, May 14, regarding the treatment of Bishop, as follows: "Powerful electric currents were applied, and for half an hour some semblance of life was maintained, but at last the current ceased to have any effect, and the doctors said Bishop was dead.")

As the condition called suspended animation will sometimes deceive the very elect, and may last many days before death or recovery takes place, physicians who have to do with sudden death, real or supposed, and in some cases following sickness, can not be too careful in rendering the final opinion relative thereto, and before making up that opinion it may be necessary to put the body through the various tests for the absolute signs of death, a procedure, in my opinion, not often enough resorted to.

That most classical and standard work, Da Costa's Diagnosis, says that "catalepsy may be mistaken for death," and our highest authority, Dunglison's Medical Dictionary, says, under the head of "Death:" "The only sign of real death is the commencement of putrefaction."

Rigor mortis, or cadaveric rigidity (which is due to the thickish fluid called myosine, the principal contractile substance of the striped muscular fibers), is usually considered proof of death, especially if a stringy coagula be present in the veins. But your opinion may be called for before rigor mortis is present, or after its supposed or inferred disappearance, or a rigidity may be present from other causes, for instance, catalepsy, and a cursory examination might fail to show the difference. Then, too, it may never occur, as in those occasional cases where warmth, color and contour remain for days after the spirit has, as far as we know, fled, as occurred last May in Chicago in the case of Miss Wilhelmina Stahl, twenty years old, pronounced dead by the physicians of rheumatism of the heart, and who lay nine days without signs of decomposition, and without the injection of embalming fluids. Rigor mortis may occur immediately after death, but usually comes in a few hours, and is more delayed the more muscular the subject and the more sudden the death after apparent health.

Regarding putrefaction, I may simply remind you that it will, under ordinary conditions, make its appearance late on the third day after death, and most quickly in a warm, moist atmosphere, the body being unclothed. Its first external sign is manifested at the abdomen by a greenish tinge, and internally the first manifestation is along the mucous lining of the larynx and trachea. The uterus last resists the process, and it may be interesting to be reminded that it has been found fit for judicial examination nine months after burial.

If it be true that "the only sign of real death is the commencement of putrefaction," as Dunglison says, and the first sign of putrefaction does not come until the third day after death, are we justified in allowing, without protest, the burial of a person one day who died, or was supposed to have died, on the preceding day, as is occasionally done?

The appearance of the fundus oculi, as seen by the opthalmoscope by one familiar with the manipulation of that instrument, should be taken advantage of, as at death there is anæmia of the arteries, a pallor of the optic papilla and pneumatosis of the veins, they becoming separated, as if cut with a knife, from point to point.

The cooling of the body after death should be critically considered. It comes gradually through the radiation of internal heat, and from this cause the external surface may become warmer than before death, and after death the internal temperature may be higher than before death, due to the generation of gases. The coolness produced by the rapid evaporation of moisture should not be mistaken for cadaveric coldness.

I append the following tests other than those previously referred to, which, so far as anything now known, will show whether life be extinct or present:

1. Put a tight band around a wrist or just above the elbow and watch for turgescence of veins at back of hand or along the forearm, as first recommended by Magnus. (It may be enough to tie a string or rubber band around one finger.) If the wrist is used the front arteries should be protected from too much pressure by a cardboard placed under the band.

2. Open a vein at the bend of the elbow and seek for stringy coagula. If found and rigor mortis is present, this is usually considered an absolute sign of death.

3. Apply the electric test for muscular contraction, as first proposed by Rosenthal, remembering that the electrical contraction may continue two and even three hours after real death, rigor mortis not having set in. (Rosenthal once demonstrated contractility thirty hours after supposed death, and consciousness returned forty-eight hours after.)

4. Make a hypodermic injection of ammonia. If it makes a red blotch life is present.

5. Stick a pin through the skin quickly and withdraw it. If the hole closes there is life, otherwise the hole remains open.

6. Place the fingers between you and an artificial light, and close to it. If any rosy tint can be observed there is life.

7. Do not fail to look for circulatory stasis at the dependent points of a body that has lain a long time. If found, it is quite a reliable proof of death.

8. Very fine feathers may be used at the nose and mouth to detect the slightest air current from respiration, or a cool mirror for moisture, and the surface of a tumbler full of water on the chest (every thing being firm and quiet) will record any chest movement. But these little procedures are useless in some cases, as there is no detectable respiration or circulation, though there is life.

9. Dr. Bowen, of Ft. Wayne, says that no one ever dies with tears in their eyes. If tears are found, as in cataleptic patients, there is life.

10. If doubt remains, let the body be kept in a damp room at 85° temperature, and this will most expeditiously bring signs of decomposition or restoration.

The cessation of the heart's action may well be considered a sign of death, and yet it will not do to be too positive even here, because you may not be able to detect the slight movements. I have held in my hand a dog's heart twenty minutes after its removal from the body, and it was feebly but regularly pulsating even then by its own inherent nerve supply and muscular sense. Who shall say that that heart could not be made to beat stronger under favorable conditions, or that the human heart is less susceptible to similar stimulation? The committee appointed by the Medico-Chirurgical Society reported that where respiration was totally obstructed the heart had continued to beat between nine and ten minutes. (See Transactions 1862, vol. 45.) A heart stopped by over distention may start up if free bleeding be resorted to, so where you get a case of supposed death by hanging, or being caught under a cave-in of a bank of earth or a well, don't neglect to at least think of venesection and cardiac stimulation. The power of ammonia by intravenous injection to stimulate the circulation and render the blood more fluid should not be forgotten.

We have several substances that will kill within five minutes (notably curare and hydrocyanic acid) by paralyzing respiration, the heart stopping last, and yet even in such extreme cases as these artificial respiration will keep the heart going till the poison is eliminated by the lungs, etc. I have often proved this on dogs, by taking two dogs of equal size and in the usual manner administer an equal quantity of the South American Indian arrow poison to each. When they dropped, as they would within five minutes, one would be kept alive by artificial respiration, provided my assistants did not get tired before safety was assured. Looking at the matter in all its bearings I am the more convinced that proper restorative expedients are not often enough resorted to.

It often happens that word comes to a physician that his patient is dead, and he does not go again to the house. It may not always be wise to take other people's say-so in such a matter, and it may be necessary for you to verify the truth of the report, for your own protection if for no other reason.

In this connection, I feel impelled to urge upon you the importance of doing something when called to a case of sudden death. Don't say: "All is over!" but go to work, and work quick. I have in mind three such cases that occurred in this city, where three rather prominent business men were stricken, each dying in a very few minutes, and each in the presence of one or more physicians, who happened to be near, and yet no attempt at artificial respiration or the sudden stimulation of the heart by hypodermic injection was made. I could instance many other cases, but these three were of prominent men. In two of these cases nothing was done, and in the other whisky and ammonia were put in the mouth, but were not swallowed. Regarding the death of Allen Thorndike Rice, the gifted editor of the North American Review, our newly-appointed Minister to Russia, who suffocated during an attack of tonsilitis, owing to sudden swelling of the glottis, it is reasonable to suppose that intubation, or at most, tracheotomy, would have saved him. The accident happens quite frequently. A precisely similar occurrence took place in this city last spring, and to a notable man two years ago. That the result might not have been different in the heart and throat cases referred to if heart stimulation and artificial respiration were resorted to is no excuse. Nothing now known will stir up a failing heart like a proper injection of glonoinum. Dr. Constantine Hering, the great homeopathic physician and author of Philadelphia, first studied its physiological effects, and to him belongs the credit of its introduction in 1848. The profession at large has only comparatively recently recognized its virtues, and its introduction seems to have been brought about by the medicine makers and venders. Nor should you forget the peculiar properties of amyl nitrite by inhalation, or internally, and you should always be prepared to use these remedies, or at least whisky and ether, in such cases.

Regarding hypodermatic injections in general, the Hospital Gazette says that their absorption is twice as rapid over the chest or temple as elsewhere, which may be a point of importance in connection with their use as indicated above. And, at the risk of being criticised for not sticking closely to my subject, I want to say that I believe we are too apt to overlook the value of hypodermatic medication in general diseases as well as cases *in articulo mortis*, more especially in cases where we might reasonably infer from the condition of the stomach that absorption is faulty or impossible, or where the case does not properly respond to the homeopathically indicated remedy. You know that medicine given through the hypodermic syringe acts more quickly than when given in the ordinary manner, and it is certainly fair to presume that we thereby get the ideal inherent and physiologically remedial effects of any substance, as it is not changed before absorption, as in a diseased stomach it must be, by acids, gases, secretions, excretions and general foulness, or, indeed, by the normal process of digestion.

In cases of death by drowning you should not fail to use electricity in your efforts at resuscitation. A fine point of differentiation as to the probability of resuscitation in a case of drowning is whether it was *suicidal* or *accidental*, for a suicide can not be saved after five minutes' submergence, but the accidentally drowned may be submerged twenty and possibly thirty minutes and yet be resuscitated. The horror and revulsion of feeling and fear of death of the latter are not present in the former, and this influence on the nervous mechanism of the heart may account for the difference. Persevere in your efforts, as life has been restored in drowning cases after four hours' work. If possible, while performing artificial respiration in any kind of case, use oxygen gas in some form to facilitate the aeration of the blood and rejuvenation of the tissues.

In case of supposed sudden death by lightning or electric shock, do not forget that by burying the naked body in the ground (all but the head) you may save life, for there are cases on record where such a result has followed. Indeed, it is now asserted that a strong current of electricity does not kill, but suspends animation, which will be resumed if the electricity is drawn off, as will easily occur if the body is partly buried in the earth.

HEREDITY.

BY J. S. ARWINE, COLUMBUS, IND.

Sayings, like seeds of diseases and death, have been transmitted from generation to generation, and many of both have been passed down to us through centuries.

Since we are told it was an old Roman sage who uttered the declaration that every man is the architect of his own fortune. Then Pope, apparently to keep the maxim in the minds of people, paraphrased it and wrote, "Life is what we make it." So to-day the truth of the above maxim is recognized by every observer, as we all know that every one has the keeping of his own character, whether it is formed by laws or customs which makes it probable that the above maxim can not be too forcibly impressed upon the minds of the rising generations.

We all know that a man may make himself useful or worthless, that he may become an ornament to society and set an example worthy of all imitation, or he may become a blot upon the body politic, owing to the energy he may put forth to accomplish the purposes of life.

A man may achieve an honorable name which will be emblazoned on the page of history and handed down to posterity; while another, who may have been in every way his superior in native ability, remains unknown and unrespected.

The man who uses industry and tact in meeting and handling the problems of life, may rise to distinction and honor among men; while the man who trusts to blind chance, loses the respect of his fellows, and drops out of sight and is forgotten.

Those are patent facts, which can not be controverted; and still they have but little to do in determining man's destiny. When, where and how man should be born are questions in which his will power can have no influence. Man does not have the power to choose his own environments, nor has he to any great extent the abilty to chose the influence by which he is controlled in this life.

Man's character is mostly formed or shaped by his ancestors who may have lived generations before his days. And his acts result from the acts of others who lived prior to his birth.

Then man is acted upon—or moved as it were—by currents which were started away back in the unknown great ocean of life, and to-day man is driven hither and thither by those unknown currents over life's troubled sea.

Therefore, it is quite natural for us to conclude that man is surrounded by what is denominated fate, though it might be more appropriately called environments, which are evidently the result of consequences. And this makes it probable that we may never know how far, or to what extent our individual will power can alter, or overcome our hereditary environments, which tend to push us in this or that direction. But this we do know, will power does become an important factor in determining problems in human existence.

While this is true, we must admit that will power is itself mainly directed by an influence which it can neither comprehend nor resist. Yet physicians have been striving to comprehend this unknown force, and they are now most earnest students of biology and its associated branches of science; they hope still to be able to follow out every suggestion of the human mind to its legitimate conclusion by patient research, and thoroughly analyzing everything that relates to human welfare. And they are striving to demonstrate, by the most scientific tests, everything that tends to strengthen human understanding, believing that they may in this way convince the people that life is progressive, and that they have the power to make progress in this life.

Therefore, we think physicians understand best the practical needs of the human family, as they are confronted at every turn in their pathway of life by the most intricate problems in human existence, and questions, such as are intimately connected with human happiness, present themselves every day and demand time for their careful study. Then the very nature of these studies tends to produce the most thorough conviction in the mind of physicians that a beneficent Creator never intended that man—God's most wonderful terrestrial creature, which he made in His own image—was designed to live a life of suffering. Because God, an allwise and kind parent, saw fit to give his creature, man, this beautiful grean earth as an inheritance to subdue and conquer. Therefore, we can not believe that God made conditions that would inevitably render the success of his creatures impossible.

Consequently modern physicians are untiring in their devotion to the interests of the human family, and their patience and perseverence in behalf of humanity has led them on the highest plane of human understanding, where they have become largely invested with the care of the people. And now they hold and may wield the influence among men, which was, in former years, held and exercised by the priesthood. And they are teaching the people the fallacy of those old superstitious ideas with which their minds were thoroughly imbued during former years, when they were taught that for every disease with which they human family suffered, there was to be found a specific in medicine.

So to-day every lover of his race has a reason for rejoicing, for when he looks about he can not fail to observe that old superstitious ideas are giving way before the advancing enlightenment of his days, and he understands that the people are losing that implicit faith once in the curative power of medicines, and he further observes that under the tutilage of physicians, the people are beginning to recognize the fact that diseases are the legitimate outgrowth of acts of disobedience to laws; and that they should, under the circumstances, be regarded as the best possible conditions, as they are nothing more nor less than the expressions of beneficient forces striving to free the body from chemical or mechanical changes which have been produced in the organism by acts of disobedience to the physical laws of man's being. Such are the conditions we call disease when found in the body. And these conditions may be and often are transmitted to foetal life as an inheritance which we think can not be successfully treated or eradicated from the body by the administration of drugs or medicines such as are generally used in the treatment of diseases whether composed of herbs or minerals.

It is certainly not unreasonable for us to suppose that the power which was able tq call diseases into existence is still able to fully remove them by the application of the most simple remedies. In fact, we may well say the foundation for such a belief is well outlined by clinical history, and supported by postmortem examinations which clearly demonstrates the fact that spontaneous cures often take place where the disease has been pronounced malignant by those who were generally regarded competent diagnosticians. Then our attention is occasionally called to persons who have recovered where no medication was had save the most absurd.

Here we have presented evidence sufficient, we think, to convice the most skeptic that there is an inherent force always resisting disease and death. A power which is not only able to remove disease, but it is without doubt able at the same time in many instances to destroy the bad effects of medicines that have been ignorantly administered for the cure of disease. Or, in other words, there is an inherent tendency to recovery in all diseases. Otherwise all diseases must be regarded as self limited, which will enable us to explain how cures take place where nothing is made use of save such articles as we know to be destitute of medical properties.

But after all these considerations there can be no doubt, but anxiety on the part of physicians to speedily relieve their patients from pain and promptly restore them to health often causes them to forget or overlook the curative power in nature. They fail to remember that there is in every case an effort on the part of nature to restore health.

Therefore, those who are most successful in the practice of medicine are always on the alert, being always careful in deciding whether it is best to prescribe medicines rather than to trust their patients to Dame Nature's care. Such are the physicians who always recognize the limitations of medicines in the cure of diseases, and they are generally, as a matter of fact, the best advisers in case of sickness, as they fully recognize the fact that the diseases to which flesh is heir are such as our humanity has brought upon itself, no doubt in thousands of instances by ignorantly violating the laws of nature, though governed many times in their acts of disobedience by the best of motives toward their fellow man. But ignorance can not be pleaded as an excuse for the violation of nature's laws. Neither can motives be looked upon with any degree of allowance, they being as nothing when weighed in nature's scales. Therefore, physicians do not now possess the ability, nor they never will acquire skill sufficient to enable them to make therapeutic applications that will correct the mistakes of parentage.

The laws of inheritance has been in force and their operations have been transmitted to us with all their vigor through about one hundred and eighty generations, and now they are clearly defined in the mind of every observer.

Therefore, we believe that every cell in the human body is capable of throwing off undeveloped atoms which are transmitted to the offspring by one or both sexes, and that such undeveloped atoms are increased by self-division, and in many instances they are successively attenuated, which enables them to remain undeveloped for years, and to pass through generation after generation before they develop cells like those from which they were originally derived. And we must suppose that their development depends upon their affinity for certain cells or their union with cells which have been developed by the process of natural growth, which will enable us to some extent to comprehend transmitted tendencies. Or, in other words, the above is an explanation of the genesis of hereditary tendencies, such as are to be observed in families and kindred, which can be traced back through generations; and this gives us a reason why a peculiar disease occasionally crops out in individuals, where their immediate parentage did not suffer from such disease. Then it is certainly ridiculous for any one who may entertain a clear idea of heredity to claim for medicine the power to alter or change those abnormal conditions which have been incorporated, as it were, into our very nature.

Surely it is worse than folly for any one to attempt the perfection of an individual by the use of medicines, who was imperfect prior to his birth, where the imperfection is a part of woof and warp of his being. But just here we think the foundation is laid upon which the several theories in medicine are based; or out of which the diversity of opinions grow which affords the designing an opportunity to impose their nostrums and vile compounds upon an ignorant and unthinking populace. But as the people are now being taught the value of hygiene there is much reason why we should believe the time to be near at hand when hygiene in all the walks of life will be carried out, when all cautionary measures will be strictly observed and rigidly enforced by the people, who will then fully realize the practical value of preventive medicine, which will limit the use of all our ordinary medicines, if it does not render them quite unnecessary.

But if we would hasten this much to be desired time, physicians must be untiring in their efforts to educate the people of their several communities in all that pertains to the preservation of their healths and the protraction of life. It is unquestionably the duty of physicians to help their patrons and the people of their several communities upon the highest plane of human understanding that they may discover, that they have power to control their own destiny to some extent, and that of their progeny to a very great extent, simply by seeking to know the laws of health, and then rendering implicit obedience to them in all things, that they may make life worth living. With these trueisms spread out before us, as physicians we ought to neither spare time nor money in seeking a more exhaustive knowledge of man and his environments, which would enable us to make a more thorough survey of the whole of nature. This, we think, must be essential to our success, if we would fully accomplish our mission in this life. And with such efforts, if we fail it will be because we fail to place medicine on a plane with biology, which is certainly the only place where it can be made to accord with the advance in human understanding. And this advance ought to be encouraged in every possible way, as it will help man to become better acquainted with himself and the necessities of his being, which must be essential to his success in getting out of the old time-worn ruts of superstition, where he will be able to discover that life is growing brighter and brighter because he is better qualified to fill his mission on earth, and can begin the measurement of his days by the reflection of his good deeds.

THE DRAINAGE OF A HOUSE.

BY WILLIAM PAUL GERHARD, C. E.,
Consulting Engineer for Sanitary Works, New York City.

In the "Homes of To-day" no feature is, to my mind, deserving of more attention from architects and house-builders than the sanitary arrangements, yet this very feature, which conduces so much to the well-being, comfort and happiness of the occupants of a dwelling, is the one to which until quite recently far too little importance was attached. I believe I am not mistaken when I assert that the drainage of a house is, probably, to most architects, still the least attractive part of the numerous details of house construction. This fact is not surprising if we remember that a true architect should, above all, be an artist. Men who combine depth of artistic feeling with a profound knowledge of methods of construction and of the principles of sanitation, as applied to house-building, are rare indeed. Hence a new profession has sprung into existence, the members of which began to devote their attention to the hitherto neglected branches of architecture, not merely to the drainage and sewerage, but also to the ventilation, heating, water supply, and much else involved in dwelling-house sanitation. Mr. Robert Rawlinson, C.E., has well said that "sanitary engineering is a new science, and as its main purpose is to make health, comfort and a prolongation of life practicable, its study to a useful purpose must be important."

A large part of the writer's professional work consists in the proper arrangement of the sanitary drainage of buildings, hence it is assumed that the following brief statement of some of the more important facts concerning house drainage will be of general interest.

During the last decade much progress has been made in sanitary knowledge, and in particular in the art of draining houses, and not the least useful result accomplished has been the better education of the general public in the details of domestic sanitary matters. Twenty or more years ago householders cared little or nothing about the final disposal of the foul wastes from houses. They were content if the plumbing work was arranged so that a free flow and discharge of water could be obtained at each sink, tub or basin in the house, and appliances of improper construction, from a sanitary point of view, were retained, from ignorance or from reasons of false economy. Noisome and disagreeable odors about a water-closet were often tolerated as being necessary accompaniments of such fixtures. The danger of exposure, night and day, year in and year out, in bed-rooms, living-rooms or offices, to an atmosphere polluted by gases resulting from the decomposition of stagnant sewage matters, was wholly ignored, and the warnings of early reformers generally disregarded. In city dwellings the ample supply of water, which in turn serves as a vehicle for transporting refuse matters, and the more general introduction of the convenient plumbing fixtures, led, owing to the leaky condition of brick or earthenware drains under houses, to a sewage-sodden condition of the soil under basements. This is true not only of the vast number of buildings erected by shrewd speculators, but it applies alike to the palatial mansions of the rich.

Indeed, the death rate from zymotic diseases increased, not only in houses with damp cellars, basements and foundation walls, but principally in those elaborately planned and richly furnished residences of the better class, where innumerable stationary wash-bowls, defective in arrangement, and tightly enclosed by decorative cabinet work, were scattered in bed-rooms all over the house. As the chief faults of the plumbing work in such dwellings, the following may be enumerated, viz.: the unnecessary multiplication of fixtures, with its accompanying complication of the work; the leaky joints of soil and waste pipes; the broken and leaky drains; the coating of soapy or greasy slime attaching to the walls of waste-pipes; the partial or utter absence of ventilation; furthermore, the defective methods of trapping; the untrapped openings for the drainage of cellar floors leading to the house sewer; the accumulation of grease in traps under kitchen and pantry sinks; the lack of flushing in all parts of the pipe system, resulting in an accumulation of putrefying slime; the concealment of all work, and the bad workmanship of hidden parts of the plumbing; the untidiness of the spaces under fixtures; the injudicious location of water-closets and bath-rooms, and in particular the faulty position of the closet for servants' use, in out-of-the-way corners, without light and air; lastly, the befouled condition of servants' closets and housemaids' sinks, the offensiveness of the hidden interior of objectionable pan-closets, the deficient water supply at fixtures on upper floors of city houses, the inefficient flush of valve-closets, the insufficient strength and unreliable support of lead pipes, and the careless exposure of plumbing work to injury by frost.

To say that all this has been changed in the past years would hardly be true, but it is safe to assert that radical improvements have been carried out. In some cities the most urgent reforms are now enforced by law, at least in the case of new houses. Yet, notwithstanding all this, it must be said that the character of the plumbing work in most modern houses is susceptible of much improvement, as I hope to be able to demonstrate. In my own practice my chief aim has always been to awaken an interest in simplicity of construction, and, in this respect, my practice may differ from that of other reformers. I have, from time to time, made statements, describing what, in my opinion, are the cardinal requirements of a good house drainage;[1] and I claim for them merely that they are, first, the outgrowth of a large and varied practical experience in the supervision of drainage work in new houses, and in the remodeling of defective work; and, secondly, that they are the result of a careful study and comparison of all the sound methods proposed for the improvement of the sanitary condition of our homes.

Before alluding to the cardinal principles and fundamental requirements of good drainage, let me give a few words of general advice to people who intend to build. To begin with, if you build a house, keep the plumbing and drainage as a separate matter from your house contract. It can not be denied that, where the whole work is given to one contractor, his chief interest—often his only interest—lies in the prospect of pecuniary gain. Thus, as a rule, the plumbing work is sublet by him as cheaply as possible. There are, of course, among the builders good men; but the result is, in at least nine cases out of ten, that the owner pays more to get an inferior job, and, what is more serious, in a house built for his own occupancy endangers the health of the members of his family by exposing them to the minor disorders of the system, to the graver ailments, and to the sometimes fatal diseases associated with bad drainage. To get even tolerably good work under the circumstances is certainly the exception rather than the rule.

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[1] See the various works of the author.

Supposing, then, that the owner follows this part of my advice by keeping the plumbing separate, the next question is, whether plumbing work should be contracted for at a stated sum, or whether it should be done by days' work. I have, some years, ago, pronounced emphatically against drainage work done by contract, and I see no reason now for changing my opinion. I still believe that the fairest way is to have such work done on a fixed percentage of profit to the contractor on all labor and material. At the same time, I can not deny, and have frequently demonstrated in my own practice, that an entirely satisfactory plumbing job may be obtained by contract work. In this case, however, it is absolutely necessary that the fixtures be properly located, the work carefully planned and arranged on scientific principles, that the contract be based upon a strict and detailed specification, and that the work be placed under intelligent supervision. Even then it is a wise precaution to hesitate to award the contract to "the lowest bidder," universal as the habit may be. It is an axiom of all good sanitarians, which the general public has been slow in accepting, that no house should be occupied as a human habitation until its sanitary condition, as regards drainage, sewerage, ventilation and kindred matters, has been thoroughly tested .Therefore, it is evident that in building a new house, much subsequent trouble and annoyance, not to mention serious illness, may be avoided if the above details of sanitary construction are put at once into the hands of an expert.

A few progressive architectural firms now follow the radical departure of employing regularly a sanitary engineer or plumbing expert to look after the sanitary details of houses. A number of others have the moral courage to tell their clients that they much prefer to have a specialist control the plumbing work in houses built under their supervision. I venture to predict that it will not be many years before attention to sanitation will be universally practiced, and sanitary construction be represented by specialists in the leading architectural offices. There would certainly seem to be ample work on hand, and the results so far obtained where this practice is followed would seem to justify its more general adoption.

At present the prevailing custom is to leave too much of the detail of the work to the discretion of the plumbing contractor. It is quite evident, that, as the plumber's chief interest is that of a business man, he will not make particular efforts to simplify the work submitted to him, by adopting safer and less complicated methods than those called for by the average specification, and by cutting out and dispensing with unnecessary fixtures. Of course, there are exceptions; but they are decidedly in the minority. As a rule, plumbers are too apt to sneer at any attempt of a radical departure from the methods of work handed down to them by tradition.

Owners, on the other hand, often nowadays place too implicit confidence in the supervision carried out by Boards of Health. While the results accomplished in cities where plumbing work is subject to regulations and official inspections have been most gratifying, it can not and should not be expected that, even with an increased force of inspectors, every individual house will receive sufficient attention. To illustrate, I have in mind a newly built house on the west side of the upper part of the city of New York, which I was recently asked to inspect by a client who had purchased it immediately upon its completion. The work was done under Board-of-Health supervision, but evidently by a rascally contractor, with the result that the new owner had to spend about seven hundred and fifty dollars to put the plumbing into a merely tolerably good condition, by recaulking fraudulent joints in iron pipe, by re-fitting water-closets left with broken earthen trap connection, by remodelling sinks left imperfectly trapped, and by putting in a proper system of tank-water supply—the house being fitted with plumbing apparatus on the upper floors, where in daytime the city water-supply failed. In order not to be misunderstood, I desire to state expressly that this is not cited as illustrating the imperfect supervision of Boards of Health—for their inspectors accomplish as much good as would seem possible under the circumstances, considering the vast extent of the building districts assigned to each of them—but only to warn the public against putting too much weight upon the statement, now so frequently encountered in announcements of real estate agents and building speculators, that "*the plumbing work was done under supervision of the Board of Health.*"

Again, neither architects nor owners should allow themselves to be guided—as is unfortunately too often the case—by the advice of dealers in plumbers' supplies or manufacturers of sanitary specialties. No matter how intelligent and ingenious they may be, their judgment can not be unbiassed. This is so obvious as hardly to require any further explanation.

In matters of drainage, perfect safety lies in absolutely faithful and faultless work. This can only be attained by employing first-class, honest, and thoroughly competent workmen, and by using first-class materials, fittings, and apparatus, by which I do not mean gilt-edged or decorated bowls, costly cabinet-work, fancy marble-work or tiling, and nickle or silver-plated pipes. All such features are only "for show," and a perfect job, from a sanitary point of view, may be secured without them.

To give to housebuilders specific advice, I should counsel them to avoid all complication, and to aim at simplicity; to avoid having plumbing fixtures not in daily or constant use; to have what fixtures are needed conveniently located, without scattering them judiciously over the house. Too much convenience in the shape of a profusion of fixtures increases the risk; while by reducing the number of openings into the waste pipe system, the amount of piping, and hence chances of leakage, are reduced correspondingly. Plumbing work should be confined mainly to the bathroom, the kitchen, pantry, and laundry. Some well-meaning friends have repeatedly expressed surprise at the standpoint taken by me in advising the banishment of all fixtures, washbowls or others, from sleeping and living rooms. I desire to state distinctly, that I consider it entirely feasible and practicable, in the present advanced state of the art of draining houses, to have in each bedroom of a house the luxury of a stationary washstand, with an abundant flow of hot and cold water, and made perfectly secure against entrance of sewer air. Convenient as such "set" basins may be, I, as a rule, advise dispensing with them in sleeping apartments, and unventilated closets adjoining them, in view of the possibility of imperfect work, particularly where plumbing inspection is not insisted upon. Moreover, it should not be overlooked, that, however safe plumbing fixtures may be originally constructed, the possibility remains of their becoming unsafe under careless use and management.

In advising the employment of competent sanitary experts, I have, to some extent, a personal interest in view. This I can not deny; but the force of the advice is not weakened by this admission, and it should not be overlooked that the public is ultimately the gainer. In support of my argument in favor of expert superintendance as regards sanitary construction, I may be permitted to quote what others have well said before me: "Sensible people, when they are ill, consult a physician, and not an apothecary. When they wish to plan a house, they take the advice of an architect, and not a builder. Both apothecary and builder are of course necessary." So it is also with sanitary experts. The sanitary engineer and the plumber are both necessary; but, while the execution of the drainage works of a house should be intrusted to a plumber, the design of the drainage system should be in the hands of a disinterested engineer. That so many householders, although considering the plumber "the pillager of their purses," still should persist in relying in the majority of cases solely upon his advice, is a matter beyond comprehension to me.

Whole volumes may be, and have been, written describing and explaining the general principles of sanitary plumbing. The essential points may be summed up in the following brief rules, viz.:

Avoidance of any retention of filth on the premises by complete, automatic, and instant removal of all waste matter before decomposition takes place; thorough ventilation of the whole drainage system; abundant and frequent flushing of all fixtures, traps, and waste pipes; secure trapping of all vessels having openings in communication with the waste pipe system; avoidance of all manner of mechanical obstruction to the flow of waste water; durability of the work, soundness of materials, and tightness of joints; perfect accessibility to all parts of the work; noiselessness in operation of all fixtures; prevention of unnecessary water waste by leakage, by freezing, or during flushing.

The cardinal rule in planning should be to observe the greatest possible simplicity of arrangement consistent with convenience and comfort. A fundamental requirement is the reduction of a number of fixtures, and another the concentration of waste discharges through as few well-ventilated pipe channels as possible. As an instance from my own practice, I may mention that in re-arranging the plumbing work for the main building of a large insane asylum in this State, I have grouped not less than ten water-closets, thirteen basins, three slop-hoppers, seven bath-tubs, one urinal and one sink, on four floors, around a single line of soil pipe, kept freely open at the top and at its lower end; thus gaining not only the advantage of greatly reduced cost, but the benefit of an abundant flushing of the only soil pipe, together with compactness of arrangement. A multiplication of soil pipe stacks and long lateral waste pipes must both be avoided. Each fixture should have a direct and short connection to the soil pipe, if possible, by a separate Y-branch. Each fixture should be separately and securely trapped. Where long branch waste pipes are unavoidable, they should have separate independent vent pipes through the roof. Lateral branches to the soil pipe, if not more than a few feet long, do not need this ventilation, provided the fixtures are quick emptying and in frequent use, for at each discharge of the fixture a movement of air takes place sufficient to avoid stagnation. All soil pipes should have ample ventilation at top and bottom, and their mouths above the roof should be enlarged and kept unrestricted by any form of cover. All basins, tubs and sinks should have large waste outlets, to empty quickly, and to fill the waste pipes, thereby securing a thorough scouring of the sides. I am in favor of using large supply pipes and valves and faucets with free waterway; but I also recommend using small waste pipes and small traps, as having a greater tendency to keep clean. Outlets of water-closets, on the contrary, should, in my judgment, be restricted as much as is consistent with their safe use. Every discharge vessel in a house should act as a flush tank. All fixtures should be of a strong, durable, non-absorbent and non-corrosive material, with smooth surface, and free from corners favoring accumulation of foulness. The question of overflow pipes has been solved in a simple manner by the introduction of a number of excellent appliances, doing away entirely with concealed overflow passages of any kind.

I favor the entire exposure of all spaces under plumbing fixtures and about pipes, for it should be constantly borne in mind that even the best workmanship and material can not be expected to last forever, and leaks or other defects are more readily detected if the above advice is followed. Any one who has had occasion to carry out sanitary inspections will bear me out in the statement that all inspections are greatly facilitated where work is kept exposed. It should, therefore, be laid down as a rule in new work, to keep everything in sight, to leave pipes and fixtures exposed to view, and traps and stop cocks accessible. This also promotes cleanliness and greatly facilitates the carrying out of needed repairs or alterations. I advise closing all free communication, by the pipe channels, between the various floors of a building, in order to avoid the carrying about of local odors from one part of a house to another.

Without making any attempt to be exhaustive, I will mention at least a few matters of construction. All soil and waste pipes should be of heavy iron pipe, and restricted in diameter, so as to increase the flushing effect of a stream passing through them, thus avoiding deposits and subsequent stoppages. All piping should be made both air and water tight, drains should be laid with proper fall and true alignment, junctions should be made with Y-branches, and cleaning hand-holes should be provided in places where needed.

Traps for fixtures should have no enlargements or corners favoring accumulations of slime or sediment and no mechanical obstructions should be countenanced. Traps should be self-scouring, made readily accessible by tight-fitting yet easily removable clean-out caps, and should have a water seal of sufficient depth, and perfectly secure against self-siphonage, back-pressure, capillary attraction, siphonage and evaporation. From my best knowledge and belief, I can not accept as universally necessary the requirement of "back ventilation" of traps. I conform to it, as a matter of course, wherever local Board of Health regulations require it; as I have also been compelled to run—always under protest—fresh-air inlet pipes to grated openings in sidewalks, which choke with ice and snow in winter time, and to cover soil pipes with the objectionable return bends and vent caps. I do not fail to explain to my clients that the back airing of traps is done at the expense of simplicity; that in a properly laid out system trap vent pipes are not necessary to prevent dead ends in short lateral waste pipes, and that prevention of siphonage can be accomplished, and the extra cost incurred by back-air pipes be saved, in all but rare instances, by adopting simpler and well known devices. Where I am compelled to run back-air pipes, complicating the pipe system, it is always my endeavor to modify the arrangement so as not to expose the water in the trap too much to the air current, for there can be no question that the thereby increased free circulatson of air in the vicinity of the sealing water of traps hastens the unsealing, by evaporation, of traps under fixtures which remain unused for some days in succession, and endangers the security of all traps during any period when a house is left unoccupied.

Water-closets have now come into almost universal use, even in cottages of moderate cost; and their advantages and comforts over more primitive devices are undeniable. A water-closet is the most important plumbing fixture in the house, and hence should be selected and put up with particular care. A good apparatus should fulfill the following requirements, viz.: it should be simple, neat, and compact in design and construction; durable, strong, and not liable to breakage by careless use; of a smooth material, with ample standing water in the bowl; all parts exposed to fouling should be thoroughly scoured; the flush of the closet should be powerful, quick, copious yet noiseless; the water-closet should be securely trapped, and the trap kept if possible accessible, and its waterseal visible; it should be free from all machinery liable to get out of order, and should be economical in the use of flushing water required to keep it in a clean condition. There are a number of excellent water-closet appliances now in the market, which practically fulfill most of these requirements.

Properly arranged water-closets will also serve the purpose of a good urinal, and thus do away with a former abomination in houses. A clean slop-hopper or housemaid's sink on the bedroom floor of a house is an undeniable convenience to servants; yet rather than put it in a dark and unventilated closet, and leave it without means for flushing, I should advise using the water-closet in its stead.

As regards lavatories of all kinds, the first requirement is that the inlet and outlet openings should not be one and the same; for, if so, in filling the vessel, some of the dirty water comes back with the clean. This same objection applies to a number of waste-valves for bath-tubs and basins designed to take the place of the ordinary chain and plug arrangement. The latter device has also radical defects, which are beginning to be more universally recognized and admitted. The outlets of the ordinary chain and plug fixtures are altogether too small in proportion to the diameter of their trap and waste pipe, with the inevitable result that both remain imperfectly flushed, and accumulate to some degree foulness. The chain and plug in the bottom of fixtures is inconvenient in use, and foul slime attaches to the numerous links of the chain, which are difficult to clean. Finally it becomes necessary with such fixtures to use hidden overflow channels, the inside walls of which receive no constant flow of water, hence become readily fouled; and, being arranged so that they cannot be reached, they offer no chance for cleaning. The decaying soap slime coating the overflow passages remains in open communication with the apartment, and forms a serious objection, a standing nuisance, and a menace to health. Numerous patent contrivances have been invented, in which the aim has been to do away with the use of chain and plug, but which retain other objectionable features. Fortunately, washbasins, bathtubs, and sinks may now be obtained with standpipe overflow, which answer all the requirements which can be made to such apparatus. They have large outlets, causing a rapid discharge, and securing the incidental advantage of a thorough flushing of the trap and waste pipe. The inside of these fixtures presents a smooth and unbroken surface, the lift devices for the standpipe are convenient in use, and the standpipe itself can be readily disconnected for cleaning purposes. There is less labor for the plumber in fitting up such basins or baths; the number of joints to be made is reduced to a minimum; and every essential part of the fixture, including its discharge and overflow arrangement, is visible and completely accessible.

Concerning tests as applied to plumbing work during construction and after completion, there cannot any more at this date be the slightest doubt that security for work properly done lies in the clause of the contract specifying that all work will be submitted to rigid tests before being finally accepted. Experience deduced from my own practice is that a better class of work is turned out where these conditions are insisted upon, and I find that mechanics doing first-class work have no objection to any reasonable test applied to their work.

The fundamental rules and requirements hastily sketched above are applicable to all classes of buildings, to dwellings of moderate cost, as well as to mansions and palatial residences. While writing this article, I have, among other work, charge of the drainage of a hospital, a school house, a club house, a mission house, a large fire-proof hotel, a row of apartment houses, and a number of city and country residences, some elaborate and expensive, others of moderate cost and plain design. In all these buildings, without exception, the above leading requirements are being carried out.

There are, of course, numerous other points in the plumbing work of a building requiring attention, such as the arrangement of the supply pipes, the hot water service, questions of tank supply, pumps and pumping engines, fitting up of hot-water boilers, etc.; but these can not be discussed without stepping outside of the subject indicated in the title of this paper.

In arranging the drainage of a house, the ultimate disposal of the sewage—a matter usually outside of the province of the architect—should not be lost sight of. The sanitary expert must consider the various methods of accomplishing this disposal of the household wastes without offence. Where a discharge into sewers or open water courses is inadmissible or unavailable, the disposal of the sewage on the premises is the only alternative. Where sufficient ground can not be had, a perfectly tight and well-ventilated cesspool, situated at a safe distance from the dwelling, and widely apart from any well furnishing drinking water, is the only device to be tolerated, although it is at best a makeshift involving the temporary storage of noxious and decomposing organic matter.

In the case of suburban and country residences having ample grounds about them, a perfectly safe solution of the difficulty may be found in the adoption of the sub-surface irrigation system, with automatic flush tank, in which the sewage is intermittently distributed under the soil by a net-work of drain tiles laid close under the surface.

SCHOOL HYGIENE.

LOMB PRIZE ESSAY.

BY D. F. LINCOLN, M. D., BOSTON, MASS.

INTRODUCTORY.

Two men should be mentioned at the head of an essay of this sort as deserving to represent the beginning of a "movement" in school hygiene. They are Cohn, of Breslau, whose examinations of the eyes of school children made a very powerful impression on the public mind some sixteen years ago, and Virchow, whose official report to the Prussian Minister of Education (published in 1869) is the most prominent document that can be referred to as leading the way in reform.

It is not intended in this essay to quote largely from German authorities. The mere statement of principles and facts must suffice in so wide and manifold a subject as the present.

It should be noted that Virchow makes use of the expression "school diseases." He is probably entitled to the credit of inventing the word. In the list which he gives there is one affection which we need not dwell upon, namely, nosebleed. In regard to another—tubercular consumption—there is perhaps a deficiency of evidence as to its causation in schools in America, though there can be no reasonable doubt that it is so caused, and the writer has the highest American authority for saying so.

Deformity of the spine (lateral curvature) is probably not so common by a good deal in America as Guillaume represents it in Switzerland. We lack decided evidence; but it is spoken of under proper heads in this essay.

It remains to note the division of the subject which has been followed, viz.:

1. Site of the School-house.
2. Plan and Arrangement of the Building.
3. Ventilation and Heating.
4. Sewerage.
5. Hygiene of the Eye.
6. School Desks and Gymnastics.
7. Affections of the Nervous System.
8. Contagious Disease.
9. Sanitary Supervision.

I. SITE.

In choosing the site for a school building we should take into account a number of things which might be overlooked in the case of an ordinary building. Dampness and malaria are, of course, fatal to a site for any purpose. For schools we must plan to have abundant light (much more than will suffice for dwellings and shops), and to have the sun's direct rays enter each room at some time of the day. The business of the school requires the absence of noise—a point which may be overlooked in business edifices; and the social character of the neighborhood and its moral nuisances are also to be considered.

Dampness. Without going much into details, the use of some method of drainage and of some shield against incoming water is suggested as likely to be needed in many places. The cellar, as hygienists know, ought to be carefully guarded from contamination of soil and air, and should at all times be dry. Grading will suffice to keep off most of the surface water. Underground water may be provided for by a ditch dug outside of the foundation and reaching deeper than the cellar floor, and either laid with drain tile or filled to the depth of a foot with loose stones, after which earth is thrown in. A similar trench may be cut in the floor. All such drains are to be led to a proper place for discharge. The floor may be made damp-proof, according to Colonel Waring's suggestion, by six inches of well-rammed clay, or by asphalt between two layers of cement; the foundation walls may be protected by a coating of asphalt outside. A damp-proof course of asphalt in the walls above the ground is useful in preventing moisture from rising.

Small country schools, if without a cellar, should at least have an air-space underneath the floor, with a few openings in the underpinning to give ventilation to the space.

River bottoms, places where mist is often seen, and the neighborhood of ponds, are undesirable places for building. No business is more interfered with by noise than that of school. The neighborhood of large factories, saw-mills, foundries, railway stations, engine-houses, or police stations, is, therefore, to be avoided. There need be no excuse for placing a school-house near any such of the latter as are under public control, or for utilizing a town lot by putting engine-houses, school-houses and a police station in close neighborhood. Regard ought to be had for the probable growth of a city, and avenues likely to become main lines of travel should be avoided. These things are mentioned because they are sometimes strangely disregarded. In large cities it is next to impossible to procure sites which fully satisfy the demand of hygiene in respect to the supply of light. Corner lots are enormously expensive, besides being noisy. The *Sanitary Engineer* prize designs for public schools, published in 1880, are instructive as showing that, in the opinion of the prize committee—

"The most essential thing in a public school is sufficient light. The conditions imposed in this competition make it impossible to secure this light without either overcrowding of class-rooms or an unsatisfactory arrangement of corridors, stairs, etc."

"Upon so restricted a site as that contemplated[1] light can best be secnred by making the building very high, higher than for other reasons is desirable.

"It should be distinctly understood that the committee do not recommend the plans to which they have given awards as being the best designs for a school building, but only as the best plans for a school building to be built in a huge box, lacking one side and without a top, the sides of which box are about sixty feet high, which seem to be the conditions under which school buildings have been erected in New York, and in which from 1,500 to 2,500 children have been crowded." —San. Engineer, March 1, 1880.

The evil complained of is a general one. New York is not the only city where fine new school buildings are erected, with a pleasant outlook all around, only to have four-story houses placed on both sides, within a dozen feet of their windows, in the course of a year or two. This is one of the worst failings of city schools.

II. PLAN AND ARRANGEMENT.

Many of our oldest school buildings are extremely faulty. In fact, we have seen two reformations in school architecture, one dating from the publication of Henry Barnard's work, in 1839, while the other is now taking place. The progress made within a few years past has been as great as at any other period, and types of edifices, which were unchallenged models of excellence fifteen years ago, are now superseded.

In schools containing several rooms, one of the commonest faults used to be the parsimony of space, which cut down the room for entries to a minimum, and packed class-room behind class-room without breathing space. The effect of this was greatly to restrict natural ventilation. Glass sliding doors were very popular; it may be feared that they still are in some places. Spiral stairs were admired. Architectural features, such as colonnades and heavy Greek entablatures, are still seen on some older buildings, the former serving to cut off a certain part of the light, the latter taking up space in the wall that ought to be devoted to windows. Excessive height is a fault which is only just beginning to be remedied. It arises partly from a false taste in architecture, partly from the expensiveness of land in cities.

An instance of the excessively compact style of buildings is given in the illustrations (Figs. 1 and 2), which are taken from the Report of the New York State Board of Health for 1881; also, in Fig. 3.

Glass sliding doors are supposed to assist in lighting rooms which are faultily lighted in other respects. They are far less effectual than is thought. A person standing in the inner room looks out through the glass doors upon well lighted rooms, and thinks the light he sees is entering the room where he stands—a false impression, which should be corrected by loking the other way. Light thus transmitted is nearly horizontal in direction, and has very little effect in brightening the page of a book lying on a desk. Glass also reflects some light, and absorbs some. In short, light thus obtained is not good light for the purposes of study. The rooms in Fig. 3 have glass partitions.

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[1] "A lot fronting north, of 100 feet front and 100 deep, and inclosed by buildings on adjoining lots at the sides and rear, of average city height, say four stories," (Advertisement.)

Another common fault in plan is to have one of the rooms of such dimensions that it is impossible to light it advantageously. Such very large rooms form an essential part of many high schools, even of modern construction; they are used as rooms of assembly, and also as the general study rooms, each pupil having a desk there, and only leaving it as occasion offers to go to small recitation-rooms. Such rooms are usually lighted from the right and left sides. The width between the windows is sometimes as great as seventy feet. The great distance of the windows from the central parts of the room is a marked disadvantage. Twenty or twenty-five feet is as far as a desk ought to be from the window.

Associated with this fault—or independently—may be found a deficiency in the size of recitation-rooms. It seems to be supposed that these places do not require as much space as ordinary class-rooms, the fact being that they are apt to be in use about all the time, and therefore are in no way to be excepted from strict requirements. When looking for instances of bad ventilation and overcrowding one should not omit to visit these rooms. The allowance of cubic space for each scholar will be mentioned later.

A type still in vogue, which has some decided merits, may be called the four-square plan. It contains on each floor four rooms and a corridor; the corrider runs from front to rear, and the rooms are in pairs to right and left. There is a staircase to front and rear. Each room is lighted from one side and the rear of the scholars; each room is a corner room. The type which is likely to supersede this one is based on the wish to give more light and ventilation in the corridors. Both are illustrated (Figs. 4 and 5). It would be rash, however, to point to any one plan as likely to have exclusive success.

The objection to spiral stairs is, that the tread is very narrow on the side next the wall, and a careless person easily gets a severe fall. The tread should never be wedge-shaped. It is a good plan to break up a flight of stairs by placing a landing half-way, with a full turn. Both stairs and corridors must be well lighted. The steps must be easy to ascend.

It is desirable to build stairways as nearly fire-proof as possible. They may be enclosed in brick walls, so that fire from the main edifice will reach them with difficulty. One staircase should be placed at each end of the building, so that no room need be cut off by smoke or flame at the outbreak of fire; it will be easy to go a step further, and place them outside, or partly outside, of the building, for more complete isolation. If the framework is of iron the treads may be of hard wood, which makes them for all practical purposes fire-proof.

These precautions are among the first to be taken against fire—we might say against panic, for the danger to life from fire, in a school where children are orderly, is scarcely to be thought of. A thousand children can be got out of a large school within two minutes of an alarm from the principal. They say it can be done in less time; it depends, however, on having the children exercised in a special "fire-drill," the sole object of which is to pass them out as quickly as possible. In the best schools this drill is given *withont warning* once a month.

Further precautions against fire may be taken; they ought not be limited, however, to prevention of combustion, but should include some means for carrying off smoke, which is so apt to cause panic. To this end it is proposed by the chief engineer of one of our large cities to have a large valve, easily opened, at the roof, so as to draw out great quantities of air or smoke. There may be also extra flues built in the partition walls, communicating with such floor spaces or wainscot spaces as may be supposed likely to be the seat of fire. The flues will not afford a supply of air to the flame, but will only carry off the smoke and gases instead of letting them come through the floors. The writer does not express an opinion upon these suggestions, but they rest on good authority. Fire-proofing beneath the floors with layers of plaster is certainly to be recommended; also, the practice of bringing the floors close up to the walls, thus cutting off the connection between story and story, which is so often the means of transmitting a fire with surprising rapidity to the upper stories. Perhaps the chief benefit of all these precautions, as regards safety of person, lies in the feeling of security against sudden conflagration, which will give confidence in the moment of alarm to some teachers who might otherwise be overpowered by sudden dread.

There are some buildings in most cities which were never ment for schools, but which are crowded with poor children, whose danger would be imminent in case of fire. A so-called fire-escape, placed on one of these wooden traps, affords a possible means of safety, but, for the most part, a good staircase in a well built school-house is the best "fire-escape."

The passages to be passed through by the scholars in reaching the door should be wide; the outer doors should swing towards the street. There should be two doors at least,—one for each staircase.

The competition for prizes for model school-house plans, which took place in 1880 in New York, has already been mentioned. The conditions upon which the committee of award based their judgment deserve to be quoted. In their opinion "a public school building to be erected in a large and densely populated city, should possess the following qualifications, viz.,—

"I. At least two adjoining sides of the building should be freely exposed to light and air, for which purpose they should not be less than sixty feet distant from any opposite building.

"II. Not more than three of the floors should be occupied for class-rooms.

"III. In each class-room not less than fifteen square feet of floor area should be allotted to each pupil.

"IV. In each class-room the window space should not be less than one-fourth of the floor space, and the distance of the desk most remote from the window should not be more than one and one half times the height of the top of the window from the floor.

"V. The height of a class-room should never exceed fourteen feet.

"VI. The provisions for ventilation should be such as to provide for each person in a class-room not less than thirty cubic feet of fresh air per minute, which amount must be introduced and thoroughly distributed without creating unpleasant draughts, or causing any two parts of the room to differ in temperature more than 2° F., or the maximum temperature to exceed 70° F. This means that for a class-room to contain fifty-six pupils, twenty-eight cubic feet of air per second should be continuously furnished, distributed and removed during school hours.

"The velocity of the incoming air should not exceed two feet per second at any point where it is liable to strike on the person.

"VII. The heating of the fresh air should be effected either by hot water or by low pressure steam.

"VIII. The fresh air should be introduced near the windows; the foul air should be removed by flues in the opposite wall.

"IX. Water-closet accommodations for the pupils should be provided on each floor.

"X. The building should not occupy more than half the lot."

The only comments by way of exception that need to be made upon this are, that in VI it seems hardly possible to expect a temperature varying only two degrees all over a room, if the difference between ceiling and floor is intended to be included; and further, that the method of introducing fresh, warm air, etc., given in VIII, is not the only desirable one, as will be shown under "Ventilation" later in this essay. In No. IV the size demanded for windows is based on the requirements of city architecture.

In other respects the recommendations deserve unqualified approval, as embodying the chief sanitary requirements in a city school-house.

Height of School Buildings. Not merely on account of danger from fire, but for reasons affecting the health of pupils, excessive height has been, within a few years past, much spoken against. It seems desirable, on the whole, to limit the height to three stories, of which the first two should contain most of the school-rooms. The reasons for this restriction are such as apply chiefly to girls of the age of fourteen and upwards; more especially to young ladies in normal schools and seminaries. Not to enlarge upon this point here, it is well to notice the unwillingness of such girls, if placed in the upper story, to descend to the play-room or yard for recess. The climbing of many flights is an evil which may come about in another way, viz., when scholars study in one story and descend to another for each recitation. In such cases the need of consulting teachers before building is evident. The plan of the house should be made to depend on the plan of study, and architects can seldom fail to gather some useful information from those conversant with the uses to which their work is to be put.

A point to note in conclusion is the smallness of the yards allotted for the children's play in American cities as compared with what is found in Europe.

III. VENTILATION AND HEATING.

This is one of the chief topics, and one of the most difficult, connected with school hygiene.

It is comparatively easy to build a convenient and spacious house; the requirements are well-known, the cost is tolerably definite, for a given place and time. The problem of merely heating a given space is also one of moderate difficulty. But ventilation is a matter about which a general opinion is hardly yet formed, and the cost of which is very vaguely known. People in general are not yet agreed as to what constitutes good ventilation—how much fresh air per hour is required.

Between a barely tolerable system, eked out by opening windows, and a system which really furnishes a supply of from thirty to sixty cubic feet of fresh, warm air per head and minute, there are many shades of difference. Few have a mastery of the somewhat complicated question involved; very few have seen successful and logical experiments made; and many are called on to act as judges—to act upon an opinion which they can not have formed.

Amount of Fresh Air and Cubic Space Required. It is unfortunate that authorities differ so widely on these points. The New York Metropolitan School Board sets the minimum allowance of space per head at from 70 to 100 cubic feet, according to age. Fortunately this does not represent the general practice in that city, though to the eye the appearance of many infant classes suggests the idea of sardines in a box. Most authorities would wish to double these figures at least.

According to recent inquiries in Boston, there is no corresponding law or regulation; but it is customary to build rooms for fifty-six pupils, with an allowance usually ranging from 160 to 220 cubic feet per head. Prof. Kedzie, of Michigan, claims 300 cubic feet; A. C. Martin, 220; various German states, from 120 to 284. The Counseil Supérieur d'Hygiène Publique, in a recent report to the Belgian Ministry of the Interior, recommends a minimum of 6¾ cubic metres per head, or about 240 cubic feet, a space which requires the unusual height of 4½ metres, or about 14 feet 10 inches. The high position of the sanitary service, especially as regards schools, in Belgium, lends weight to their recommendation.

It is the writer's belief that it is desirable to limit the size of classes to forty (40) pupils. Experts in education recognize the gain that accrues to the individual scholar from such limitation. If we base the calculation on this figure, we have more liberty of choice between large and small rooms in making our plan for a building. The advantage of space is twofold; it enables us to introduce large volumes of air, fresh and warm, without danger of draughts; and it gives more value to the practice of airing out the room by windows at recess times, since a large roomful of fresh air lasts longer than a small one. But there is such a thing as too much space, entailing difficulties in regard to discipline and teaching, and making it hard to secure good light. For example, a class of fifty-six, with an allowance of 250 cubic feet each, requires a room of the capacity of 14,000 cubic feet, or 27 feet wide, 37 long and 14 high, dimensions which can hardly be profitably exceeded, if indeed they are not too great already.

As regards the amount of fresh air to be introduced hourly, it is desirable to found our ideal upon the basis of Parkes & DeChaumont's views, which represent the best authority. By depending upon the testimony of their senses as to whether rooms were "close" or "fresh," these authorities reached the conclusion that it is not desirable to allow the amount of carbonic acid in air to exceed the proportion of 6 parts in 10,000. Any higher proportion seemed to be attended with perceptible closeness.

Now, assume that fresh air from out of doors contains 3½ parts in 10,000, which is a trifle below the usual rate. A room of the capacity of 10,000 cubic feet, freshly filled with this air, and tenanted by one man, would receive from his lungs an addition of 2½ cubic feet of carbonic acid in 4⅛ hours, raising the total to 6 cubic feet. If, then, 10,000 cubic feet will last 4⅛ hours, the supply for one hour should be 2,400 cubic feet, or for one minute, 40 cubic feet.

The usual assumption is, that "fresh" air contains 4 parts not 3½, in 10,000. If so, the hourly requirement is about 3,000 cubic feet, or 50 per minute. Billings increases this to 60. If an average school-room of the better class contains an allowance per scholar of 200 cubic feet of space, there would be a necessity for renewing the air completely every four minutes, or fifteen times in an hour. This requirement, however, is intended to apply to rooms used day and night, such as barracks. For school-rooms, the amount may be less, owing to the opportunities for frequent airing, and the total disuse out of school hours. The writer agrees with Dr. Billings in the belief that, *for schools*, the allowance of *from* 25 *to* 30 *cubic feet per minute and head* will answer all needful purposes, if supplemented by occasional airing-out during and after school.

It is evident that if air is to be introduced so rapidly, there should be a liberal allowance of room, in order that the incoming air may not be felt as a draught.

The outgoing air, by the way, is rarely felt; but a very vigorous draught may be appreciable two feet from the register.

Do children require a smaller allowance than adults? or, Do small children require less than large ones?

One answer, in the affirmative, is derived from the estimates of the amount of CO_2 exhaled at different ages. Breiting gives it, for girls aged seven or eight years, at a little over 10 litres per hour; at the age of eight or nine, 12 litres. If engaged in singing, it is 16.7 for the latter age. Boys aged twelve or thirteen expire 13 litres; during singing the amount rises to 17. Scharling gives, for the age of ten years, close upon 10 litres; for a boy of sixteen, 17.4; for a young woman of seventeen, 12.9; for adults, a little more. Pettenkofer & Voit give 16.8 for a weak man, and 22.6 for a strong man.

It would appear, then, that there is a decided difference to be allowed for. Primary pupils expire less CO_2 than high school pupils, in the ratio of 2 to 3; or perhaps the difference is still greater. If a room ought to contain the cubic space of 250 feet per head for larger scholars, it need contain only 180 for the same number of small scholars. In other words, forty large and sixty small scholars can be accommodated in an equal space.

This estimate, however, is admissable only on the supposition that the ventilation is efficient. In case of defect, or apprehended defect (and this covers a wide ground), the young children should have equal room with the older ones, on the ground of their comparative inability to cope with the deleterious effects of bad air; also, because in contracted quarters the danger of draughts from windows is greater. It has been said that children need a proportionately large allowance, "because metamorphosis of tissue goes on more rapidly in them." We have two means of estimating the amount of tissue-change, the quantity of CO_2 exhaled, and the quantity of *food consumed.* On the whole, the latter item is sufficient for the argument, and may be believed to represent the amount of change of tissue very well. It is quite evident that, though boys of fifteen may consume as much food as men, children of eight do not. A supply of air, then, which would be liberal for a large boy, would be more than liberal for a small child. The degree of allowance to be made is a point upon which distinguished authorities differ. DeChaumont would place three times as many children of four or five years in a given room as youths of fifteen or sixteen, while Billings would allow very nearly the same amount for children of all ages.

Dimensions of Ventilating Apparatus. Let us suppose the case of a school-house to be planned for thorough ventilation. It is assumed that all the air to be extracted is to be carried by flues through the roof. We will first consider the flues for extraction. The resistance offered by friction is of great importance, and should lead us to make the flues of liberal size, as straight as possible, and smooth internally. A flue of less than eight inches internal diameter is not worth much. The inside should be finished in smooth plaster, or, better, with sheet metal; never with rough brick unless very large. Angles check momentum very greatly; so do horizontal passages.

Suppose a single room to be ventilated by a single brick flue, straight and well made; and suppose the only force to produce a current is the warmth of the air leaving the room at 68°. It is probable that if the flue is of moderate height, with no fire, the upward draught will seldom exceed the rate of two feet per second. An average of two would be a liberal allowance. If there are fifty-six pupils, the chimney is expected to discharge 28 cubic feet per second, and in order to do this, it must be at least 14 feet in sectional area, or about 4 by 3½ feet inside measure.

The register opening to this flue should be at least as large. (The reader may try to form an idea of this by measuring the dimensions on the wall.)

Not to speak of the register, such large flues can not be introduced into a building already finished, and can hardly be thought of in a new plan. There is, indeed, no necessity of so large a shaft if we provide a somewhat different arrangement. If convenient, we can cause the furnace-smoke to be carried up this flue in a cast-iron pipe, thus increasing the heat, and possibly doubling the velocity. In large buildings, moreover, the whole system must be centralized, and this is done in two ways—first, by conducting the foul air from each room by long tubes to a central heated chimney; and second, by grouping rooms so that they discharge their foul air at once into the chimney, without intervening "ducts." The latter is the plan of the Bridgeport, Conn., high school, to be described presently.

Three illustration (Figs. 6, 7 and 8) show how the first plan may be carried out. It is to be observed that they all imply the expenditure of extra heat to force a draught; also that in No. 6 the heat is applied in a chamber in the attic (which may be of wood lined with sheet metal), while in the others it is imparted by the smoke-flue of the furnace. The most economical plan of the three is stated by Planat to be the last; the least economical, the first. The Bridgeport school plan is illustrated in the next plan (Fig. 9). It is ventilated by two large, brick shafts, which curve and meet in one at the attic story. In their upward course they pass directly by each school-room, and take foul air by one large opening from each. These same shafts also carry the tin flues for the hot air supply of the rooms, one such flue for each room. The heat lost from the tins goes to keep up the heat of the shaft, and increase the "suction" power. The smoke-flue is utilized in the same way, and there is a "suction coil" for extra heat in the upper part of the flue.

With but one inlet and one outlet, there was need for special care in planning the position of the registers. The plan adopted seems to be quite successful in distributing the air and equalizing the temperature. The inlet for hot fresh air is near the ceiling: the current travels toward the windows: a descending current near the windows, originating in the cooling effect of the glass, continues the movement, and finally there is a strong outward movement of air at the inner corner of the room on the level of the floor. Something like a circular movement is thus produced. In the diagram (Fig. 10) arrows are introduced at points where currents are felt, and the intervening points may be filled in by the reader's judgment. The figure represents the room in section, with temperature taken simultaneously after the apparatus had been in operation forty-five minutes. Similar arrangements have since been made, to the knowledge of the writer, in school in Auburn, New York, and Newton, Mass., with good success.

The orifice for the exit of foul air ought to be a good deal larger than that for the inlet of fresh air. In examining Fig. 9, the reader is desired to make the correction mentally.

The use of steam power as a ventilating agent is not a novelty in other public buildings, but in school houses it has been tried, so far as known to the writer, only in Boston, and that within a few weeks past. The experiment is one which it is very desirable to make, by way of testing its economical value. The arrangement consists of a fan placed in the space below the ridge-pole, within a box, propelling the air upwards through the cupola, and exhausting by good-sized flues from below. The motor is a high-pressure engine in the cellar, which seems to require from twelve to fifteen tons of coal during the winter, and the constant presence of an engineer. A new form of engine ("vacuum engine") is proposed, requiring no separate fire, and run by jets of steam from the boiler which heats the school, at an extremely low pressure. No tests for carbonic acid have been made, but the anemometer test, applied in two schools, gave a rate of discharge equivalent to twenty-four cubic feet per head and minute, which is about as much as we can ask for. The expense of introducing the appliances is stated as moderate; flues not to be considered being required in any case; vacuum engine (no boiler required), about $500; and fan something more besides cost of gearing to transfer power from cellar to attic. In one school a certain amount of rumbling noise is heard (but not complained of), due to vibrating motion in the attic, the apparatus having been introduced not as part of the original plan, but after the school was built. In the other building scarcely any sound was heard.

The arrangement of flues for such a plan has nothing peculiar. It requires chiefly the avoidance of angles, or rough and narrow flues, and is represented in figure 6, the fan being placed at * * * just below where the cupola is set upon the roof.

No system for exhausting air by hot flues or by steam power should be introduced without providing for the introduction of a corresponding amount of fresh-warmed air. Hence it follows that ventilation and heating constitute parts of one general problem, and that the same mind should plan both.

"Indirect" heating is the only kind worthy of our consideration. In cases where stoves are set in school rooms, they should be made indirect heaters by the use of screens, as is hereafter described. For larger buildings, steam heat, by means of coils arranged in boxes in the basement, is probably the best. Auxiliary coils may be placed in entries, but not, as a rule, in school rooms. Ventilation can not be had without some increase in the bills for fuel. There is reason, however, to think that the amount of increase is not so great as might appear. In our worst ventilated schools there is a good deal of warmed air let out at windows, in an unsystematic way.

Good ventilation implies that cold draughts from open windows are done away with. Hence a lower degree of heat in the room is sufficient for comfort. It also implies a rapid change of air, with equalization of temperature, so that the feet are kept warm; this also enables us to be comfortable at a low temperature. A third point, bearing in the same direction, is the greater activity of the circulation and of the change of bodily tissue, and the consequent increase of bodily warmth in fresh air.

The writer has at least twice found opinions strongly expressed in favor of the results of ventilation. Once in a new primary school at Springfield, Mass., where the teachers agreed that they could get along with the thermometer some degrees lower in their new, well ventilated quarters, than formerly was the case in close rooms. The other instance points indirectly in the same way. In the new building of the Massachusetts Institute of Technology, with nearly perfect ventilation, the quality of the work performed is said to be decidedly superior to that which was done in the old building, which has no system worth naming. The ventilation in the new Institute building is very successful. It is effected by a fan in the basement, which forces air through openings in the inner walls of the rooms at a high point, the air escaping by flues in outer walls at low levels. The allowance per hour and head is 1,500 cubic feet in lecture rooms, and from 2,000 to 4,500 in laboratories of various kinds. The analyses of air gave from 4.87 to 5.23 parts CO_2 in 10,000, in a room which was half full of students. The estimate for a full room would be from 7 to 8 parts per 1,000. Corresponding analyses in the old building gave from 9 to 12.34 in a room with doors and windows open, half full; if filled it would probably stand at 21 or 22 in 10,000. Prof. Woodbridge's estimate of the fuel burned last winter is 307 tons for the old and 404 for the new building, and some allowance is to be made for the fact that all the boilers are situated in the cellar of the older building. Both are of nearly the same size, and are equally used, and for the same purposes.

However encouraging the results, it is seen that perfection is not yet reached. By way of comparison, a few selected data are given, showing the number of parts in 10,000 of CO_2 in the air of various localities. (See table.)

It is probable that the bad air of German schools is one cause of the prevalence of near sight and other defects of vision.

The standard of 6 per 10,000 is not likely to be reached in schools at present. Perhaps we shall have to admit the practical justice of Prof. W. R. Nichols' remark, that 10 in 10,000 is as low as we can expect to find in schools with fair ventilation.

AMERICAN SCHOOLS

	No. of rooms examined	Parts CO_2 in 10,000.	Observer.
Philadelphia 1875	9	12.2	E. Thompson.
Boston 1870	40	14.5	A. H. Pearson.
Boston 1875	111	11.9	Draper & Nichols.
Boston 1880	39	15.6	W. R. Nichols.
Michigan	46	22.9	R. C. Kedzie.
New York City 1873	17	20.8	H. Endemann.
Lynn, Mass 1883	8	17.5	Prof. Hills.

GERMAN SCHOOLS.

Annaberg, 5 schools	39.9	O. Krause.
Wilhelm's Gynasium in March	55.8	Oertel.
" " in July.	22.9	"
Celle, Gymnasium, various rooms	20.50	Baring.
Celle, Volks-schulen, most rooms	90	"
" " one room	120	"

Much has been said regarding the proper position for outlets and inlets for air. One false view may be corrected at once—the notion that carbonic acid gas is the agent that is chiefly noxious, and that this gas seeks the lower levels. It is not specially dangerous in quantities found in schools—the animal vapors from skin and lungs are more so—but it represents the degree of organic pollution fairly well. It is not found chiefly at a low level. If there is any difference, the upper levels are sometimes more impregnated, owing to the breath rising in a cool room; but the difference is small, and, in a room with rapid ventilation, not distinctly traceable. The air from the pupils' lungs may be assumed to be distributed through the apartment rather quickly. The process of ventilation then becomes, not a removal of the exhaled air, but a dilution by the introduction of large quantities of fresh air.

A test for carbonic acid is not easily made in a way to satisfy scientific demands, but an approximate test can be made in a minute by an unskilled person. An ounce of fresh lime-water in a ten-ounce bottle of the air to be tested, shaken vigorously for half a minute, will indicate a fair degree of purity, if it is not distinctly made turbid. One should have a little practice, even at this simple operation.

The writer has endeavored to make a convenient and portable apparatus which will give an indication of the number of parts in 10,000, within a range of error not exceeding one part. To some extent the instrument is successful. It is based on Lange's method. A series of bottles of known size was chosen, graded from large to small, and fitted in a wooden frame. The whole apparatus is carried to the room to be tested. The bottles have been previously filled with water, and when inverted the air fills them at once. They are stoppered and carried to the laboratory, where a given amount (say one-half ounce) of lime-water) chosen as being less liable to change than baryta-water) is introduced into each, and also a few drops of a solution of phenolphthalein, which gives a rose color to the lime-water. By shaking for a good many minutes the carbonic acid is made to neutralize the lime; the approach of complete neutralization is marked by the fading of the rose color; and when satisfied that the process has gone on long enough, we select the largest bottle that shows the complete change, and say:

The air in this bottle measures (say) 10 ounces; it contains enough CO_2 to neutralize (say) ½ ounce of lime-water; how much CO_2 is here? And how many parts in 10,000 parts of air does it stand for?

The calculation is of course made previously for each bottle, so as to reduce the labor of a test to the mechanical operation. The act of shaking is fatiguing, and the charging of the bottles requires some practice and a well-graduated tube. No figures are here given, but by a comparison with simultaneous analysis made by Pettenkofer's method, an encouraging degree of accuracy has been observed. The point of difficulty in this and similar processes is to determine when the carbonic acid is to be considered as having been fully taken up by the lime. This fault seems to attach to Mr. Owen's ingenious process, given in Billings "Ventilation and Heating."

Source of Supply of Air. The purity of the source must be carefully guarded. A wooden duct is the usual means of conveying the air across the cellar to the furnace. Such ducts easily open at the joints, and let in cellar air; hence painting from time to time may be useful, unless tin be substituted, or galvanized iron. The interior should be accessible in some way for cleaning, as dust cannot but accumulate with time. The inlet, out of doors, is to be guarded with a wire screen, and is so situated as to be out of the way of mischievous persons. Bad smells are sometimes noticed in a school, which enter through this channel. It is hard to tell, in certain neighborhoods, just where to place the opening. The ground is damp; the air at ten feet is odorous for various reasons; and at thirty feet the smoke of neighboring chimneys is blown into the inlet; it is usual, however, to make the cautionary remark that malaria and dampness linger near the ground, and, as a rule, ten feet from the ground is a good place.

Scrupulous cleanliness of the cellar is necessary. If there are water-closets there, they had better not be near the ducts, nor even in the same division of the cellar, since the ducts are provided with doors which are liable to be left open contrary to orders. The misuse of such valve-doors is one of the crying sins of janitors. Many a master has a perpetual warfare with this functionary on account of this. The janitor's object, first and last, is the saving of coal in order that he may receive credit for economy, and his habit is to close the outer valve, opening the one that leads from the cellar, thus feeding his furnace or coils with cellar air at 60° instead of the cold air out of doors. In this way the writer has found a school-house filled with air which must have passed through the furnace two or three times, being drawn down through the entries to the cellar, and then sent back through the furnace. Excessive heating of the air is not so frequent a fault at present as formerly. A report made to the Boston School Board in 1846 complains that the air sent to school-rooms is frequently heated to 500° or 600°. This may be simple exaggeration, but there is no doubt that a heat approaching 200° is not uncommon at present. Circumstances alter the requirements greatly, but for schools by day-light, the range should not much exceed 120° F., nor fall below 80°. In order to fulfill this demand furnaces and boilers should be made very large. Steam heating is one of the best methods. The pressure upon a boiler of proper capacity need never exceed ten—perhaps it should not exceed five—pounds to the square inch, and it should frequently run down to one pound. The danger of explosion need hardly enter into the calculation if there is good management.

Ventilating Stoves. A useful apparatus for aiding ventilation is furnished by a class of stoves which are provided with an inlet for fresh air, and a chamber for warming it before it is introduced to the room.

Figure 11 shows a stove having a jacket of sheet metal, a space between the jacket and stove, and a fresh air flue, with a valve operated from the room. The principle, as regards air-supply, is not essentially different from that of the "Fire on the Hearth," the "Jackson Ventilating Grate," and Galton's ventilating fireplaces. The method is practically valuable, though the stoves I have seen do not really supply enough air; that is, a stove large enough to *heat* a given room does not introduce nearly enough air to *ventilate* it. The column of hot air is very short, and the velocity moderate. Yet, where stoves are to be used, there is an obvious gain in using this kind. It ought to be supplemented by a powerful chimney-draught, the chimney being made of liberal size, and heated by the passage of the stove-pipe: an opening for ventilation is to be made near the floor. In still other ways ventilation may be aided by the stove-pipe, as will be seen from Figs. 13 and 14.

Figure 12 shows a screen (supposed to form a semicircle) placed by a stove near a window, which is opened.

Figure 13 is like Fig. 11 in principle.

Figure 14 shows how a lower story may be ventilated.

The last four illustrations are from Billings' "Ventilation and Heating."

The evaporation of water in connection with heaters is probably useful, but the writer is not inclined to consider the matter one of primary importance. It is successfully dispensed with in some of the best ventilated new wards in hospitals.

Children often come in with cold and damp feet. It is desirable to provide some kind of foot-warmer in the hall or basement. A good one is made of an iron plate, 2½ or 3 inches thick, set on a flat steam-coil.

Opening Windows. This may be regarded in two lights, according as the scholars are *at work*, or *moving and exercising.* To keep windows partly open seems an absolute necessity in many school-rooms. In one-roomed country schools, one of the first steps in sanitation is to insist on the upper sashes being arranged so as to be lowered. An open window is an evil, nevertheless, in cold weather. The palliative measure to be recommended is a strip of board a few inches wide placed so as to deflect the current from under the lower sash, and make it pass above the heads of pupils. This is a decided mitigation of the draught. It is very often liked in rooms where the ventilation is otherwise bad. A tilting sash at the top of a window can not be safely used in winter. Such a sash, however, ought to be placed over every room door to enable the occupants to share to some extent in the purer air of the entries. There is no question of the good done by temporary opening of windows and doors for a minute or two while scholars are exercising. The effect may be supposed to disappear in two minutes or so; but when combined with a short physical exercise in the standing posture, its effect, both moral and physical, is undeniably good. In a very carefully conducted school known to the writer, this is done every hour, the period of five minutes being allotted for that purpose, unless there is a regular recess. At recess time, also, it is the rule that no child shall remain in the rooms, but that all shall go to the play-rooms under charge of their teachers, the windows in the mean time being opened by scholars deputed for the task. These measures, well carried out, greatly relieve the condition of a school which has no efficient system of flue ventilation.

The "Eureka" ventilator is an opening in the wall to let in air directly. It has a valve, and the passage is bent so as to throw the air upwards. It is a useful accessory in some cases where a thorough ventilation is not planned for. Similar openings are often found behind steam-coils in school rooms. Their utility is delusive;—they deliver a very small quantity of air, and are liable to be stopped up by accident, or for the purpose of keeping out the cold.

Much has been said of the supposed capacity of cast-iron stoves to let carbonic oxide gas pass out through their pores, thus contaminating the air with a peculiarly deadly poison. The present weight of evidence does not sustain this belief.

IV. SEWERAGE.

It is difficult to trace any large amount of disease in schools directly to offensive privies or sewers. There can be, however, no doubt that some is so caused. The school is often supplied with water from a contaminated well. Bad air and stenches are not always provocative of illness, but the common-sense of civilized races suspects them, and there is no doubt that they may promote debility, headache, loss of appetite and digestive tone, and general depression of vitality; while in the minds of some physicians there is no doubt that dysentery may be caused, and perhaps typhoid fever, and that scarlatina and diphtheria may be aggravated by exposure to foul air. Pneumonia, tonsillitis, rheumatism, and neuralgia are probably to be included.

Although drainage, as applied to school buildings, is governed by the general rules applicable elsewhere, it may yet be desirable to note, in passing, the chief of these rules. A certain number of points of more special application will be noticed afterward.

In all houses, whether used for school purposes or not, the drain, soil, and waste pipes ought to be of iron, visible and accessible throughout their course, if possible; without angles, as straight as possible, and never horizontal. Soil and waste pipes are to be carried up full size, two feet above the house roof, and there guarded against the weather. A trap is to be provided for each sink, basin, urinal, or closet, and a running trap for the outlet of the drain, with an opening from the drain for ventilation, just inside the trap. Safes are to be connected with the drain directly. Rain-water leaders are not to be used for any other purpose, and *vice versa*. The best trap for sinks is, perhaps, the ball trap. Ordinary S traps are often shallow, and are rather more easily siphoned than D traps. Traps are to be ventilated by 1½-inch pipes leading to the general ventilator (*i. e.*, the continuation of the soil or waste pipe) above all other inlets. If not ventilated, the omission must be made upon good authority. Bell traps are convenient for the floors of urinals, but they are rather inefficient unless the seal is made deeper than usual.

In many towns there is a supply of acqueduct water, but no public sewer. In this case the drain usually discharges into a cesspool, loosely built, which permits the escape of fluids into the soil. This arrangement is satisfactory when there is a good deal of spare land, and when the soil is light and gravelly. In a clayey soil it may be entirely inadmissible. If the population is even moderately compact, sewers should be provided at once, under peril of infecting the subsoil air to such an extent as to influence the air of cellars. City schools are usually provided with water-closets proper, or with flush-tanks or iron latrines. In country schools the ordinary privy is almost universal. Good water-closets are doubtless the best arrangement, so long as they are kept in order. No kind yet invented is free from the danger of derangement. A hopper which gives a full and quick discharge of water is probably the best for schools. The discharge may be dependent on the movement of the door or seat, or may be arranged to occur at once in all the bowls at a given signal.

The flush-tank is a long vault of masonry, over which the seats are built. It should have a round bottom and rounded corners. At one end is a tap of water; at the other, in the bottom, a plug to let out the contents. The janitor should remove the plug, and flush and swab the interior at least once a day. With proper ventilation there need be no offensive odors. If placed in a well-lighted cellar, it will give satisfaction as long as it is carefully attended to; but such is human nature, that we may expect to find a certain proportion of cases in which due care is not given, and consequently dissatisfaction is felt. There is a great difference of opinion among intelligent heads of schools upon this point, some being unwilling to tolerate these arrangements under the house-roof, while others are strong in support of them. On the whole, it seems better, if we can not be sure of the future character of the service rendered, to place all of them out of doors. A flush-tank will not freeze in the climate of New York city if emptied at night. In colder places it may be necessary to empty not only the tank (which in any case should be always done), but also the pipes leading to it, directly after school.

An unobjectionable apparatus consists of an iron sink coated inside with a firm glaze, rising to contact with the seats, and only deep enough to hold a few inches of water, with a suitable space above. There should be no riser. The whole should be above ground, in a place moderately warmed; the water to be drawn off daily, and in cold weather not replaced till the next day. For an out-of-doors sink, if iron is used it must not be supplemented by a wall of masonry built above it, as the contraction and expansion of the metal cause a breaking away from the masonry.

As regards freezing, the writer is informed by the superintendent of schools at Springfield, Mass., that it does not occur when the water is shut off from the out-door sinks and drawn off.

A school-house should have one water-closet in-doors, for the use of females. A building of two or more stories may properly have one on each story, in order to save girls the fatigue of climbing stairs in cases where the privilege is desired, and also for the teachers' use.

The urinal appears to present a difficult problem; but the whole matter lies in two words—non-absorbent surfaces and frequent cleaning. One of the best forms is composed entirely of slabs of slate, forming a wall five feet high, with a gutter at its foot. The gutter is cut in the floor-pieces on which the pupils stand. Upright slabs divide the space, in the interest of decency. Slate is almost impervious to moisture, and is made quite so by oiling with linseed oil. The apparatus in question is usually furnished with a perforated water-pipe, to keep the front surface of the stone moistened with a sheet of water. The idea is a good one, but requires such exactness of mechanical work that the jets are rarely in perfect order. It has the further disadvantage of seeming to excuse a part of the duty of scrubbing. No portion—side, base, or back—should be neglected in this respect. All these surfaces are liable to grow foul. The amount of work needed to give thorough cleaning is considerable, but it is the only way to secure purity. The janitor's task ought to be lightened by having the whole floor of the apartment slope toward the gutter, so that the hose can be used freely. Some urinals have a raised platform, in order to define the place to stand on. The better way would be to have a depression, which would equally define the position. A monitor, in either case, should stand by to check irregular behavior.

All complication of structure in these departments should be avoided. Concealment of the basin of a water-closet by wood-work is not desirable, and the wooden seat should be so fitted that it can easily be removed for cleaning or renewal. The urinal needs no trough. It should be made of materials which are not porous: no metal work is admissible, for rust is sure to come, and the animal matter of the urine so saturates the rust that it can hardly be soaked out. Paint soon scales off from metal. Wood can be protected by paint for a time, and then becomes soaked with urine unless repainted. The writer has seen marble used—a material whose absorbent powers may be seen in the large slabs used in restaurants, depots, and such places.

Little need be said about the common privy attached to most country schools. In many cases this is the last thing attended to. It is practically outside of the teacher's supervision, and one can hardly blame a young and modest woman for failing to see that her duty lies in this direction. It is generally a first-class nuisance as regards odor, insupportable if placed within a convenient distance; but if set off fifty feet or so, the exposure which the pupils undergo in cold or wet weather is a serious matter. In perhaps one-half of the cases it is out of repair. The accumulations go on for a year at a time. Finally the walls are covered with dirty scrawls; and very commonly the girls' closet is contiguous to the boys', so that every thing is heard through the partition.

The remedy for a part of these troubles may be found in a more active interest on the part of the school trustee. He can have the place repaired, the scribbling effaced with a plane, and paint applied so as to give a thoroughly neat look. He should try to have both the teacher and the scholars coöperate in maintaining a high standard of neatness, securing, if possible, an occasional visit from the teacher, and making such himself, so as to insure that no breakage or injury goes unnoticed.

Most privies are too dark. Two closets in immediate contact do not insure a proper and modest degree of separation between the sexes: in such a case, the boys and girls should have recess at different times. If there are really two separate out-houses, it is well to have them, and the approaches to them, separated by a sufficient fence. There ought to be plank walks, or raised ways (paved, asphalted, gravelled), to enable the scholars to go dry-shod. But the plan which commends itself to the writer as by all means the best for country schools is the use of dry earth in vaults, emptied weekly, in a shed close to the school-house, and accessible by a short, covered way. It may be thought best to retain the old style of privy for the boys, keeping it at a distance from the house as before; but for girls and little children it is most certainly desirable to have a place which they can reach without danger to health..

Not to mince matters, the direct exposure of a sensitive part of the body to the gusts of a north-east storm is not a thing to be regarded as a trifle; in certain states of the system it may be highly dangerous. And both girls and small children are sometimes led to slight the calls of nature, to their bodily harm, by fear of exposure to bad weather. The plan here suggested is one which may be found illustrated in the report of the Connecticut State Board of Health for 1883.* In that report there is given a plan for a country district school, which places both privies under the school roof, but at opposite ends of the structure. Difficulty in keeping the boys' place in order (owing to the need of a urinal) is anticipated, and there is presented as an alternative, a plan which contains only the girls' closet, as is here recommended.

The figure appended is taken from that report (numbered figure 10—in the present essay, No. 15). It shows a single school-room with separate entrances for the sexes. On the girls' side at the rear is a small, square building, isolated from the main building by an 18-inch passage-way around it, but intended to be sheltered by the same roof. The detail of the construction of such a closet is very simple. It requires a receptacle, consisting of a brick trough about two feet wide, rounded at bottom and corners, and coated internally with coal tar to prevent the absorption of fluids or gases. The coating is continued over the top of the bricks and down the front as far as exposed. The bottom is an inverted arch of masonry, bedded in cement and coated with the same, and projecting slightly at the outer end to facilitate removal to buckets. Four feet is a sufficient depth. The bottom ought not to be so low that water from the surrounding land can run into it; and it is better that it should be raised above the ground level for convenience in removing the contents. There should be a bin for dry earth in a sheltered place handy for use. Two inches of this earth, finely powdered, are to be spread on the floor of the pit at first, and a little sprinkled on daily: a complete removal is made at the end of each week.

The present writer would corroborate the plan here proposed by cases which he has recently seen, in which the earth removal system is carried out with entire success. An ordinary projection in the rear answers every purpose; the chamber ought, however, to be isolated by a narrow passage-way, furnished with screened windows, which should be kept open. The portable earth-closet may be found useful, but in reality it possesses no advantage over this arrangement.

The only disinfectants required for well-arranged water-closets are water, soap, and fresh air. For earth-closets, no more than these and earth are needed.

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*In a paper by the writer of this essay.—SECRETARY.

Privies ought not to become offensive: treatment with earth should be resorted to, and if that is thought inapplicable to deep vaults, then let the vaults be shallow for the purpose of speedy removal. But in cases of existing nuisance, or in epidemics of fever, dysentery, or cholera, it is well to be provided with a temporary remedy; and for this purpose, chloride of lime, or corrosive sublimate, as recommended by a committee of the American Public Health Association, may be used. Chloride of lime has the disadvantage of a strong smell. Whichever is used may be prepared by dissolving in soft water chloride of lime (of the best quality) in the proportion of a pound to four gallons, or corrosive sublimate, a pound to twelve gallons. The latter solution is to be colored with permanganate of potash (nine drachms) to prevent mistakes. Of the former solution, use a quantity equal to the supposed solid contents of a vault; of the latter, one-fourth as much.

If used undissolved, one pound of chloride of lime corresponds to thirty pounds of the solids; one pound of corrosive sublimate to five hundred pounds. Subsequently, chloride of lime may be freely sprinkled over the contents daily. A corrosive sublimate solution may be used for the same purpose, four gallons a day, made by the following formula: Corrosive sublimate and permanganate of potash, of each 2 drachms ($\frac{1}{4}$ ounce), dissolved in a gallon of soft water. This may be kept in a tub or crock, not in a metal vessel. As a precaution in case of an epidemic, wash the interior of the vault daily with this. If green vitriol (sulphate of iron) is used, take a pound and a half to a gallon of water.

V. HYGIENE OF THE EYE.

During the period of school-life, as is now generally known, certain affections of sight increase. It would appear from the uniformity of the results of investigations that the increase is a general rule; and most of those who have treated of the subject have considered it due, in a great degree, to the effect of over-exertion of the eyes in school, more particularly when the light is bad and the rooms unwholesome. It is generally accepted as proved that near-sight is very liable to be inherited. Far-sight (old-sight) is also found in children, and, like near-sight, it increases in frequency and degree as children grow older, until somewhere about the age of fifteen it begins to be less frequent, and at the age of twenty, among students, near-sight decidedly preponderates over far-sight. Dr. E. G. Loring has given diagrams illustrating this fact in the case of three nationalities—the German, the Russian, and the American. The observers, whose facts are taken for the diagrams, are Conrad, who examined 3,036 eyes of school-children in Königsberg; Erismann, who examined 4,358 eyes of scholars in St. Petersburg; and Derby & Loring, who examined 2,265 eyes in New York schools. The ages in all cases run from the youngest to the oldest pupils, including members of superior schools, up to the age of twenty. In the German table the percentage of near-sighted eyes rises from $11\frac{1}{10}$ in the young children to $62\frac{1}{10}$ in the oldest; in the Russian, from $13\frac{6}{10}$ to $43\frac{8}{10}$ per cent.; and in the American, from $3\frac{1}{2}$ per cent. at six to seven years to $26\frac{78}{100}$ per cent. in the twenty to twenty-first year.

There are a good many other similar series of observations, all agreeing substantially with these, but the German percentages are always very much higher than the American. This is not surprising if school work has anything to do with the result, for German children in all superior schools (real-schulen and gymnasia) are made to do an amount of work which is incredible to our school-boys, and with some results to show in the way of intelligence, too. German children in America also show a decidedly greater percentage of near-sight than American children, owing, no doubt, to hereditary influence. In a board-school in London, Brudenell Carter has lately found nearly 10 per cent. of near-sight among 267 children. These are the facts, and to most minds they seem to point to a tendency in national life which is truly alarming. It is a distinct drawback to a person's usefulness to have abnormal sight; to have to wear glasses is a serious drawback for many purposes; and yet Germany, which is leading the world in education, is far ahead in respect to near-sight, and we seem to be following her in both points.

There are those, however (as Landolt), who lay the chief stress, as regards causation, upon general conditions of health, maintaining that hardship and poor fare constitute one of the chief causes of near-sight. It may be so, and this is not the place to enter into the argument satisfactorily; but if so, how shall we apply the doctrine to the case of Amherst College, where Derby's strictly accurate statistics show an increase from $44\frac{2}{10}$ to $50\frac{8}{10}$ per cent. during the four years' course? In Amherst the conditions of living are as favorable as can be found. Not only is there no "hardship and poor fare," in Laudolt's sense, but the young men are under a régime of physical exercise which produces a distinct effect in lessening illness during their residence.

A brief statement of the leading causes, not in any presumed order of frequency, is given here:

1. Inherited tendency.
2. Study while the system is in a weakened condition.
3. Study in a bad light.
4. Study in a bad posture.
5. Study while the eye or brain is fatigued or congested.
6. Study in excess at the formative period of life, when the bodily tissues easily assume a wrong bent.

These will probably cover the ground, so far as relates to our present practical object, pretty nearly. The writer ventures also to offer a series of practical remarks in the form of rules at this point, leaving further discussion till later.

RULES FOR USING THE EYES.

In school work we should require:

1. A comfortable temperature, and especially let the feet be kept warm and dry.
2. Good ventilation.
3. Clothing at the neck loose. The same as regards the rest of the body.
4. Posture erect; never read lying down or stooping.
5. Little study before breakfast, or directly after a hearty meal; none at all at twilight or late at night.
6. Great caution about study after recovery from fevers.
7. Light abundant, but not dazzling.
8. Sun not shining on the desk, or on objects in front of the scholar.
9. Light coming from the left hand, or left and rear; under some circumstances from in front.
10. The book held at right angles to the line of sight, or nearly so.
11. Frequent rest by looking up.
12. Distance of book from the eye about fifteen inches.

As regards the causes. No. 2 refers especially to the case of convalescents after measles, scarlet fever and other weakening fevers. No. 6 requires attention on account of some suggestive remarks made by Dr. Loring in the report referred to. He enlarges on the comparative neglect of out-door life, and the unwholesome habits of eating and living that are found among German children as contrasted with the free play and plenty of fresh air that boys have in our country. He also asserts a belief that since myopia is a disease of childhood, and rarely originates after the age of fifteen or sixteen, it is desirable to give children little severe study until after they have passed that age. More concretely, he points to the life of an English school-boy, with his long hours of foot-ball and cricket, as a better ideal than the German plan.

As regards the rules:

Nos. 3 and 4 are intended to prevent the occurrence of congestion of the head, which is very likely to injure the eye. A recumbent posture is bad for another reason, viz., because it places the eyeball in unaccustomed positions, disturbing the equilibrium and deranging the habitual action of the eye muscles.

No. 5. Study before breakfast is usually work done at a disadvantage, since that period is one at which the strength of the system is at a low point in many people. If study is done by artificial light, the trouble is much worse.

No. 7. Some persons are unduly sensitive to light, while others require an amount which is excessive for the average person. Regard may be had to this fact in arranging the pupils. Windows of ground glass, if within the range of sight, are annoying on account of a kind of dazzling effect; if the sun is upon them, they are intolerable.

No. 9. If light comes from the right hand, the pupil's hand in writing shades his work annoyingly. If from the rear, he derives no direct benefit from it unless he turns himself so as to get rid of the shadow; this is the position required in writing by some teachers. A front light, from a window so high that pupils practically are not aware of its presence, is good for the purposes of writing; but such a light can hardly be obtained in a class-room without annoyance. Practically, there must be no windows for scholars to face while employing their eyesight upon tasks. This rule also forbids placing black-boards between windows, so that scholars are obliged to face a full light while trying to read what is written on them. And since the black-board is one of the chief instruments of instruction, and a large extent of it is held desirable, there is an advantage in restricting windows to one side of a room, so that the strip of black-board may run around the three sides unbroken, and with every part of it in a good light.

No. 10. The desk lid slopes for the purpose named. It is useful to have light frames for holding books in a more upright position while no writing is going on. Some desks are made with a joint in the middle of the lid, giving the means of obtaining such an inclined book-holder.

No. 11. The old rule, which punished all who looked up, must be given up. If a pupil is restless and does not apply himself, his case can be reached in various ways, but not by a prohibition of this sort.

No. 12. This distance need not be an invariable one at all times. If generally observed, it will correct the habit of stooping. In teaching penmanship, very great care is needed to prevent the formation of bad habits as regards attitudes. The author has seen a whole roomful of children writing, with their eyes at an average distance of less than three inches from the paper. This exercise must not be engaged in if cloudy weather makes the light poor. Ink should be of a kind that gives a perfectly black mark when first put on paper, not the thin, bluish fluid which is black the next day.

This is the proper place to mention with condemnation the atlasses which are often used, crowded with detail in small, delicate letters; also the small "school" editions of large standard dictionaries, printed in type which, though clear, is exceedingly fine. Many school books of our day deserve much praise for their clear, bold type. The use of large type charts in teaching an entire class is to be commended as avoiding the necessity for a certain amount of poring over books.

Here we may repeat what has already been said about very deep or wide rooms. Many such are wholly unsuited for comfort in writing.

If there is a tendency to near-sightedness, no pains should be spared to prevent a child from getting the habit of holding his eyes too near the book. The distance of fifteen inches is not great; but a child must sit up in order to maintain it. This connects the present topic with the question of school desks, of which it will be convenient to speak elsewhere. The maintenance of a true posture is dependent on true proportions of desk and seat. When these are obtained, and a child with near-sighted eyes is unable to see clearly at the distance named, it is the opinion of many modern ophthalmologists that he should be furnished with glasses just sufficiently strong for the purpose of desk work. At the same time he may be prevented from crouching down by the use of an apparatus which keeps the head at the distance required. Such an apparatus can be made so as to give no annoyance, and can be kept permanently screwed to the desk. Förster, in 1883, reported several cases of remarkable improvement under this treatment.

Although this is not the place for discussion of the points involved, it may be well to mention that the act of keeping the eyes close to an object is held to involve a muscular effort, both in the act of converging the eyeballs, and also in the (unconscious) act of accommodating the lens by the ciliary muscle, which contributes to the increase of existing near-sight, if it does not originate it. The best light for working purposes comes from above, and is nearly white. This suggests two points:

1. Windows throw light very obliquely on distant objects. It is held by the best authorities that in general they afford sufficient light only when the distance from the windows does not exceed one and a half times the height of the window itself. This restricts the depth of a room to about twenty feet; a few more may be allowed for the width of an aisle. In one of the handsomest high school buildings in the country the depth from windows to opposite wall is forty feet, which can not be reconciled with true principles.

2. If light from above is to be sought, the upper part of the window is most valuable, and should be placed within six inches of the ceiling. This greatly improves the illumination of the ceiling, which is itself a very important light giver. The lower part of the windows is not of so much consequence. It is desirable that they should not be so low as to let in light full upon the face horizontally. If the sill is placed four feet from the floor, no serious loss of light occurs. It is usually stated that if the surface of window-glass is calculated, it should amount to from one-fifth to one-sixth of the floor surface. Of course this depends somewhat on the locality. In order to secure the required amount, one side of the room must be made as full of windows as is consistent with the strength of the wall. The tint of the walls should be a neutral shade of blue, quite light. In general, paper is less cleanly than a hard finish.

Blinds should keep out the sun and admit light and air. They are often poorly made; the rolling slats get out of order. They should be of a light color; natural wood color changes to a dark brown in time, but a light green tint is very pleasant, and admits a sufficiency of light when the sun is shining on the blinds. Solid shutters are not suitable. Curtains ought to be provided. The kind which rolls from the bottom is best, for it cuts off the horizontal light, which is often very annoying to the teacher as well as the scholars, while it leaves the upper part of the window free. If it is thought best to place any windows in the rear end of the room, they should be provided with these shades. Or the windows in that situation may be placed at the height of six or eight feet from the floor.

Projecting "architectural features," as cornices and pillars, are not to be allowed to interfere with windows, or lessen the amount of light entering. Windows must be square at the top.

VI. SCHOOL DESKS AND GYMNASTICS.

Some additional points are here to be given:

1. Support for the feet. This needs special attention in the case of little children. Wooden foot-rests ought to be given when needed.

2. Curves adapted to the body. The seat ought to be "curved," *i. e.*, hollowed. The back in American chairs is usually sloped so as to furnish an easy support in lounging. Some such chairs are so persuasive that one can hardly sit upright in them. This is a great fault, for the school ought to teach an upright carriage of the body. The chairs used in Germany, though the patterns vary greatly, are commonly made upon the principle of supporting only the lower half of the spine, usually by a short, nearly upright, board. Many of our own chairs might be greatly improved by an approach to this pattern, the principle to be followed being this, that the back of the chair should fit the person closely at the lower part, where the spinal column needs support. I have seen a young lady in a high school suffering a good deal from pain due to the want of support at that point, which was relieved by placing a cushion there, behind the pelvis. No seat that can be devised is suitable for long continued occupancy by healthy children. Their bodily growth is impaired, and deformity is caused by the mere want of bodily activity. A cure for the crooked spine is not, therefore, to be had by carefully adjusting the size of the desk to that of the seat, and by giving the appropriate curves to the latter, but by developing the whole muscular system so that due support shall be given by nature. The deformities which come from this source are more frequent than is thought. Feeble, pale, quiet, over-dressed, a class of girls passes you, "filing" from room to room. You see one in a dozen with rosy cheeks, evidently a country girl. Their shoulders are all round, and they have the droop forward which indicates a want of muscular vigor and deficient expansion of the chest. A part of the impression thus given may be due to the subdued tone and manner of the school room. The same girls, however, "stay in at recess;" they ride home in the horse car; their leisure is spent in piano practice, and in going to parties.

There is a potent remedy for these evils in the hands of school boards; it is the practice of gymnastics. In this single measure the entire list of evils called "school maladies" is attacked by giving increased force to the entire physical system. Let pupils in normal schools be first made to appreciate the benefits of the system by applying it to them; let them learn to discard sundry superfluities of dress, by being taught the comforts of "gymnasium dress;" let plain sense, under the title of hygiene, be taught as more important than scientific physiology. If this class of persons can be converted, a permanent benefit accrues to all their pupils in future.

But to return to the subject of desks:

3. In classes, however well graded, great differences of height are noticed. In accordance with this, each class-room in a graded school ought to have at least two sizes of desks; three are desirable.

4. Height of the desk. When the pupil sits upright, and the arms swing freely, the elbows will be just below the edge of the desk, and when bent in writing, will barely clear the edge. Girls require a desk from one half to three quarters of an inch higher.

5. The edge of the desk must come up to a line just over the edge of the seat, or must overlap the seat by an inch or two. This keeps the child from stooping.

Nos. 4 aud 5 are of importance as tending to prevent deformity. Too high a desk raises the right or left shoulder unduly. A desk at a distance from the pupil's seat compels him to take a bad posture.

What remains to be said of school gymnastics may be said here. A good deal may be done with no apparatus at all in the ordinary class-room. Light gymnastics, comprising movements of the arms, are to be practiced daily, more for the benefit of the change and for stimulating circulation than for development of body. An hour twice a week will suffice for a more thorough course, with a trained special teacher, in a room devoted to the purpose. No heavy apparatus is recommended—light wands, dumb-bells of wood, perhaps small clubs. It has been found best for classes exercising together in the Amherst College Gymnasium to give up the heavy gymnastics altogether; much more so in schools. Then there are the "free exercises," including proper methods of sitting, standing, lying, walking, running, jumping, as well as exercises in concert, games, etc.

"The aim of these free exercises is to call into action in turn the greater part of the voluntary muscles of the body; and with an intelligent, earnest teacher to direct them, there is no end to the modifications and combinations that can be made, calling for precision, and strict attention, and skill on the part of pupils."*

A very valuable work can be done at once, with no special apparatus, and with comparatively little training, by heads of schools who have at command a spare room or a hall with movable seats. The members of upper classes can be instructed by him with perfect success in marching, facing, and a variety of exercises of too complicated a nature to be carried on in the school-room.

There are two present obstacles to the adoption of a complete system of training—the expense, and the want of trained teachers. The calling of a gymnastic teacher, in fact, is a laborious one. But the matter is one of prime importance, especially in our city schools; and teachers may aid materially in securing the adoption of a thorough system by trying to use the means now in their power.

VII. AFFECTIONS OF THE NERVOUS SYSTEM.

School life is capable of doing much good, as well as harm, to the mental and nervous life of scholars. Over-work, work performed under pressure or at bad seasons of the year, work done in a state of anxiety, are among the causes of injury. The influence of competition for prizes is acknowledged to be bad in a great many cases.

"Double promotions" ought to be watched with care.

As regards over-work, a change in public feeling has come about of late, which has largely led to the abandonment of home study for pupils under the age of (about) twelve years, and has cut down the hours of attendance at school to five in the day. One innovation of modern origin requires to be criticised—the use of a single session, closing at 1 or 2 P. M., instead of the morning and afternoon session.

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* Dr. J. J. Putnam.

There should be one long recess in such a session, and arrangements for luncheon may enter with profit into the consideration of the school authorities, for it is unnatural for a growing youth or girl to fast six hours on a stretch amidst vigorous exertion of mind. The fact that some have no appetite for a lunch constitutes ground for suspecting that the school life or work is responsible for the want of appetite.

It is a serious grievance of teachers and scholars that the time of year when the work is hardest is the spring and early summer, the season alike of review, examinations, diplomas, promotions, prizes, all of which is made more trying by "spring sickness" and premature summer heats. At the close of a year's work there should be an approach to relaxation of effort. How difficult it is to secure such a relaxation is well known to teachers. Many a teacher is ready to faint with fatigue before the welcome rest comes. The children do not now suffer so much, their work being rather irregular than severe, for the most part, at those times.

On a matter so familiar to the public as mental over-work and strain among school-children, not a great deal need be said. It is probable that social dissipation does a great deal more harm than school work. Girls, of course, need more watching than boys, for they more readily give up their habits of out-door exercise, and too often have no in-door work whatever to compensate for it. Even among teachers this fault is marked. Their toil is an anxious one, and they require relaxation as much as any profession, but they too often fail to recognize the need. The writer was told by a prominent "kindergarten" teacher, who has teachers under her and instructs others in kindergarten work, that it is a frequent fault among her teachers, as well as her adult pupils, to suppose that they could work in the morning in teaching, attend a class in the afternoon, and go to parties in the evening, the fact being that in this kind of work no teacher ought to consider herself capable of any serious, responsible undertaking outside of her kindergarten; and the kindergarten hours are from *nine* to *twelve* o'clock!

Without doubt this is very near the truth. Teachers who have five hours' work a day are to be considered as having done a day's work. Seldom, however, is the work completed in that time, for under the new régime a great deal of work is written by the children and has to be looked over and corrected at home by teachers.

Among positive injuries to the system, and symptoms of injury, the following may be named as often due to school fatigue:

Debility, want of appetite, dyspepsia, sleeplessness, irritability, headache. Other troubles, of less frequent occurrence, are menstrual anomalies, irritable spine, hysteria, chorea, neuralgia. A case of epilepsy is known to the writer, which recurred after five years of health, in a vigorous youth who overworked himself in competing for a prize in *gymnastics*.

Complaints peculiar to females have often been charged to the injury received in going up and down stairs. Derangement, including excess, painful periods, or deficiency, as well as local displacements, have been noticed. It is certain that the existence of many flights of stairs is complained of, and that young women avoid rooms in the upper stories of boarding-schools in many cases. It may be well to give here a summary of the evidence collected by Geo. E. Smith, M. D., in 1874, in respect to a number of such institutions. The replies amount to the following, substantially:

Answer No. 1. The complaints named are not usually prevalent; there are restrictions upon undue haste in going up or down stairs; should prefer to have no dormitories above the second story.

2. They are very frequent, and are due to this cause.
3. High buildings are bad if there is carelessness in running up and down, not otherwise; improper dress and dissipation are the chief causes.
4. Similar to 3.
5. Rarely due to stairs; due to dissipation; should prefer two-story buildings.
6. Not due to stairs, but to lacing, heavy skirts and overwork.
7. Dress, corsets, and stair-climbing are far more to blame than study.
8. Stairs are a great evil while girls are dressed as they are now.

The matter has been touched upon in another division of this essay.

VIII. CONTAGIOUS DISEASES IN SCHOOLS.

The diseases intended by the title are diphtheria, scarlet fever, measles and small-pox.

There is little need to enforce by argument the importance of the subject. There is a pretty general feeling that the matter of complaint is not an imaginary one. In the report of the Massachusetts State Board of Health (ninth) a large number of letters from physicians are cited or referred to, all, with scarcely an exception, acknowledging the danger of contagion to be real. There is, however, a mass of ignorance and blindness in the lower social strata which can not be expected to pay the slightest heed to ordinary precautions for preventing contagion until forced to do so. The means for bringing such heedless persons to their duty now exist in many places in the form of local ordinances or school regulations. Such regulations should be something like the following:

1. The existence of a case of the above named diseases should exclude from school all inmates of the house in which it prevails, until competent authority decides that it is safe for them to return to school.
2. Teachers, school officers, or physicians should report cases coming to their knowledge at once, whether such cases are in their own school or not. The child affected is to be sent home at once, and the parents informed of the law.
3. Contagion being easily spread by pupils after recovery by means of clothing or fine particles of epidermis, etc., it is necessary to establish rules for disinfection, whether of the premises and clothing, or of the patient's body, the proper performance of such disinfection, and the lapse of a suitable time, being ascertained upon good authority.
4. Evidence of vaccination should be required of all children entering the public schools, and revaccination should be recommended to pupils at a later date, especially during epidemics of smallpox.

Contagious affections of the skin, and spasmodic diseases (itch, scald head, ringworm, epilepsy, St. Vitus' dance, habitual hysteric attacks), are deserving of attention, as liable to occur at any time in a city school. Teachers should have some knowledge of what is to be done in such cases, and should be authorized to complain to school governments. The convulsive affections named are, some of them, contagious through imitation, and must be excluded unless there seems good reason for the contrary course.

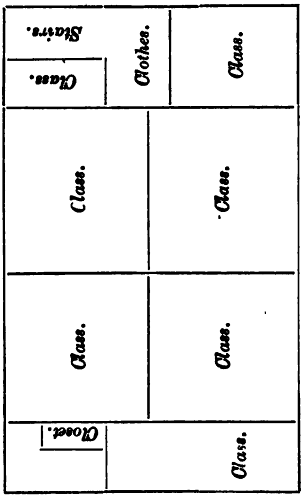
IX. SANITARY SUPERVISION.

As a corollary to all that has been said, we must consider how the facts can be made operative in and upon the schools. In many school boards one person—or a committee—is charged with matters pertaining to the health of scholars. For most places this plan is the desirable one. In large places, including cities of all sizes, a natural means to this end is the appointment of one or more persons charged with the enforcement of regulations based on sanitary principles. This plan will soon be tested thoroughly; the only difficulty (or rather the only question) seems to be in relation to the extent of the duties and functions of such officers.

The cities of Elmira, N. Y., and Boston, Mass., each have an officer, a physician, who acts as medical supervisor. In the latter place he is entitled "Instructor in Hygiene," the peculiarity of the designation being due to certain technical difficulties in the local statutes. Here it may be truly said that the field for one man's exertions being unlimited, and far beyond any man's capacity to fill, it is open to the incumbent's discretion to select the most necessary objects for his first attention. At present the inspection of the buildings forms the leading object in Boston. Instruction in hygiene is also given by means of lectures addressed to teachers. That such an officer should be a physician requires no proof.

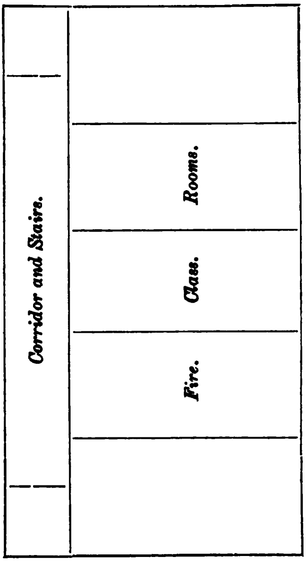
How great the opportunity for work may be in certain cases is shown by that of the city of Brussels, which (for European ideas) presents a model in this respect. This city, with a population of 183,000 and thirty-three public schools, has a staff of medical visitors sufficient in number to make a *weekly* visit, with personal attention, to each pupil. In one respect their duties go beyond what is likely to be thought advisable in America at present—they give medical treatment to a large number of pupils at school. The number thus treated for the three years 1876–'79 was 445, 732, 1,118; besides which, during the same three years, there were 2,885 cases of dental treatment. Among the chief duties of such an officer should be those of inspection of buildings and of instruction of teachers in the principles of hygiene as applicable to their charges. Sanitary rules may be proposed by him, and he will have a great opportunity of rectifying errors in sanitary administration due to mere ignorance. He will not take from members of the school board their right to be interested, but he can greatly increase the interest if he knows how to use his knowledge of the subject. It need not be said that there are some points where the field is already occupied, as the matter of public vaccination and other means for guarding against contagion—matters usually in the hands of town or city boards of health. Where these points are not thus arranged the school inspector should have them in charge.

Fig. 1.



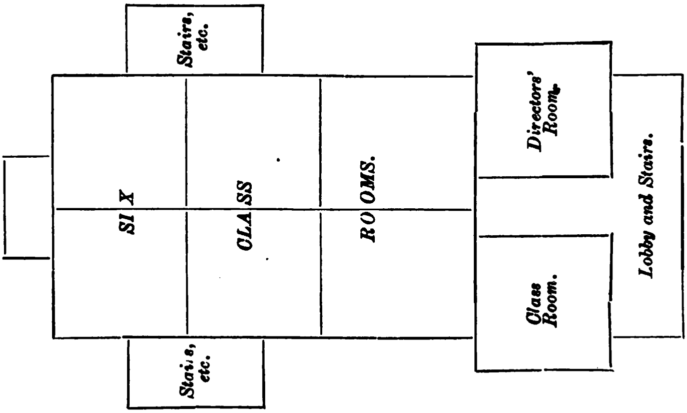
Plan of School-house illustrating excessive compactness.

Fig. 2.



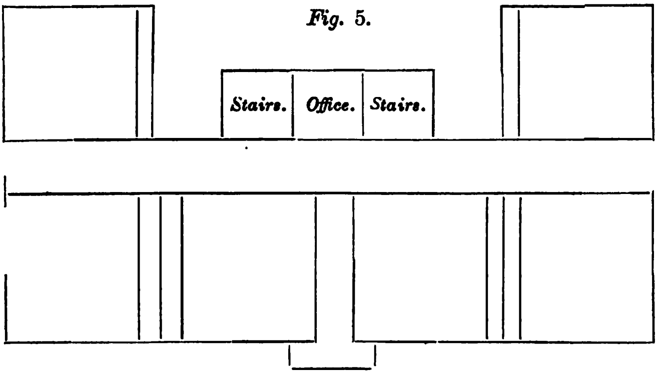
Plan—Same fault.

Fig. 3.



Plan of School. Philadelphia.

Fig. 5.



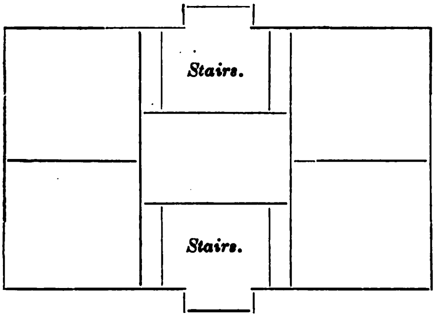


Fig. 4.

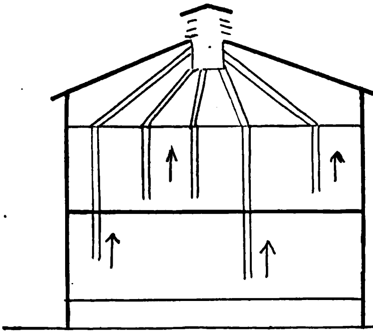


Fig. 6.

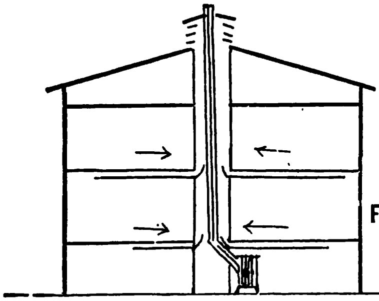


Fig. 7.

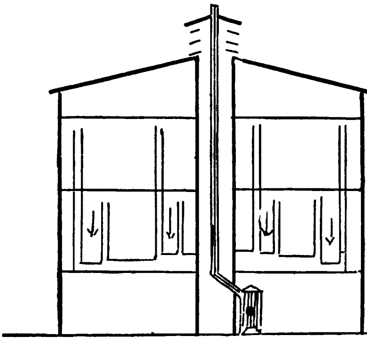


Fig. 8

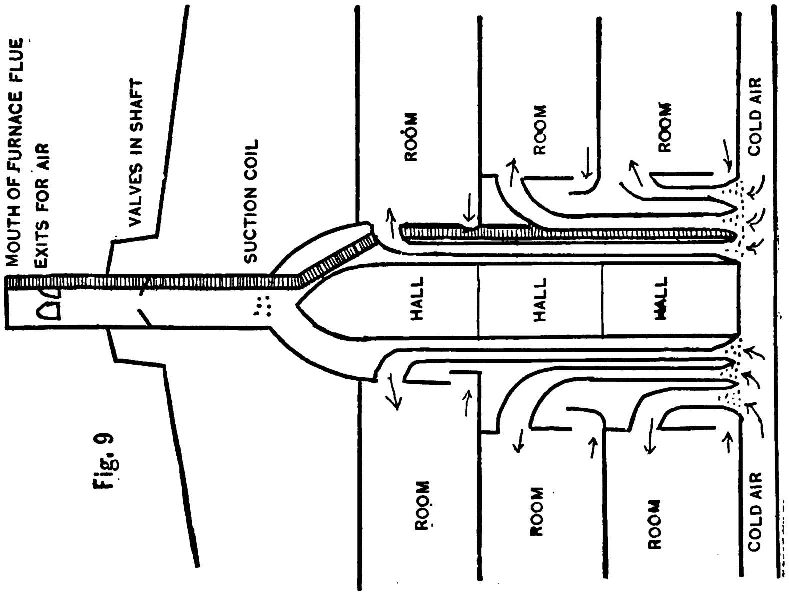
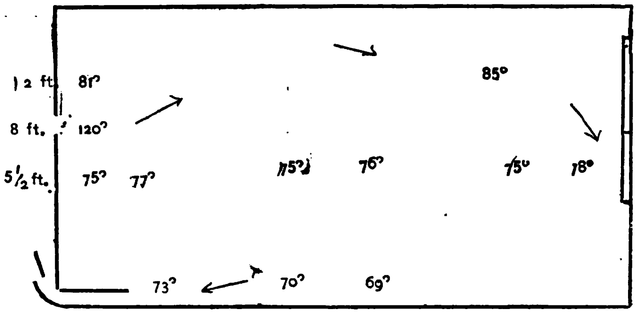


Fig. 10



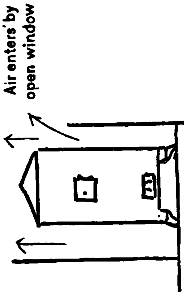


Fig. 12

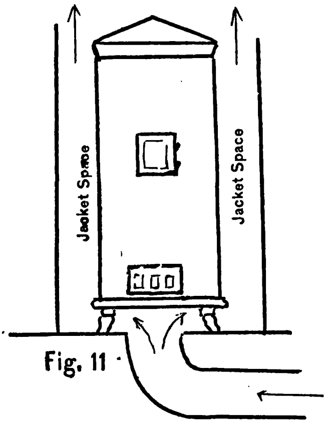


Fig. 11

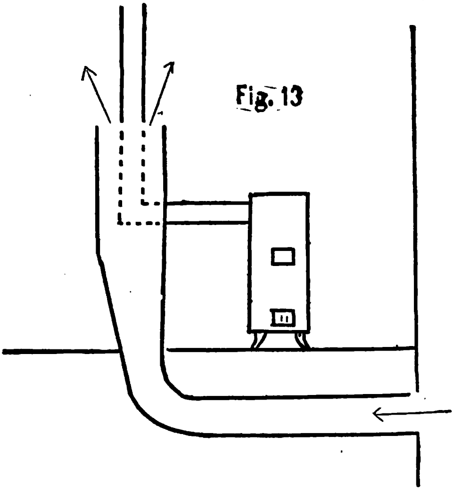


Fig. 13

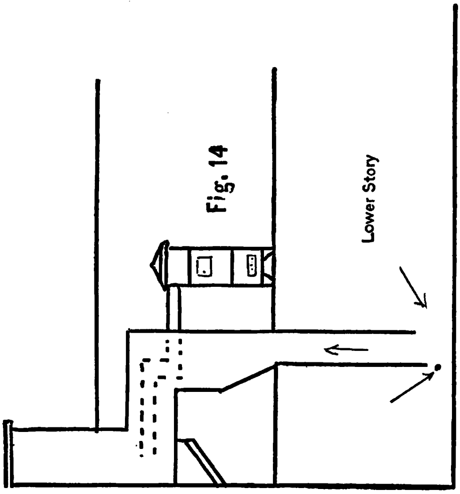


Fig. 14

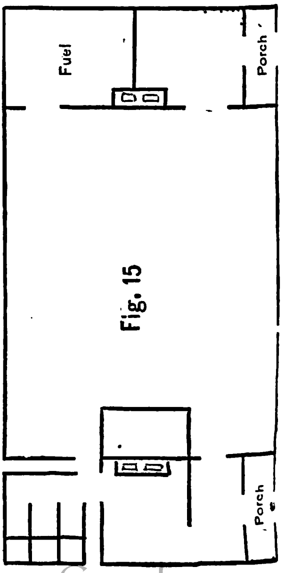


Fig. 15

[LOMB PRIZE ESSAY.]

THE PREVENTABLE CAUSES OF DISEASE, INJURY AND DEATH IN AMERICAN MANUFACTORIES AND WORKSHOPS, AND THE BEST MEANS AND APPLIANCES FOR PREVENTING AND AVOIDING THEM.

BY GEORGE H. IRELAND, SPRINGFIELD, MASS.

We are aware that the home life of the average American mechanic is not what it should be. In considering our subject we must assume that he comes from a clean house, well ventilated; that he has a pure water supply; that he brings a well nourished body; that his clothes are clean, and duly cared for; in fact, his wife's work "should praise her in the gates."

The location of the factory is an important subject for the workman. In the city he is exposed to lung disease from a smoky atmosphere and impure air, bad eyes from poor light during the day-time, great danger from fire owing to the buildings being huddled together, and also from the combustible nature of the surroundings. The suburban factory presents disease in the shape of malaria and pulmonary troubles, owing to the fog that rises from the undrained land, and from fevers from the bad or no sewer connection.

Unfortunately the builders of factories have not that latitude of choice open to builders of private residences. The manufacturer has many limitations, such as water power, and proximity to railroads and other factories. Some, of strict necessity, must be carried on in the midst of thickly settled cities. Manufacturers are, however, each year loosening the fetters that seemingly have bound them, and are exercising more thoughtful care in the selection of building sites. They find it profitable to their pockets, as well as contributory to the health of their operatives, to erect their buildings in moderate sized towns, or in the suburbs, rather than in the heart of the great cities themselves.

The building should be placed on well drained land, and every precaution should be taken against any possible trouble from surface or overflow water. These remarks apply also to the adjoining lands, as land that fluctuates from overflow to dry soil is a frequent cause of malaria.

The building should be of brick, and, if possible, only two stories high. (A woolen manufacturer, who had the experience of several fires in his factory, remarked in our presence, "that were he to rebuild, he would only build two stories high, as then, in case of fire, the hands would feel certain of their safety, and make a stubborn fight to subdue the flames.") The floor timbers should rest on ledges built in the walls. The flooring should fit closely, affording no hiding places for rats. Where noisy occupations are to be carried on the floors are to be "deafened." Each story is to be high enough to permit of good ventilation without the draft striking on the heads of the workmen; the roof to be of metal or slate; stone coping to be used on chimneys and all walls extending above the roof; this prevents loose bricks from falling. The cornices should be of sheet metal, when stone, brick or terra cotta is not used; columns to be of hard wood or brick, as they will not warp if badly heated; chimneys to rest on their own foundations, starting from the ground; the walls to be whitewashed directly upon the bricks. If plastering is required, use metallic lathing. The stairs, of easy pitch, are located at each end of the building. In long buildings other flights are to be added, so that no person will be obliged to go over eighty feet to reach a stairway; the stairs to be of iron, excepting the treads and risers, which may be of wood. Where women are not employed omit the risers; each flight to reach the story above by a direct flight, no turns to be permitted; the top of each flight to be cased in, and a door provided which is to be closed each night, and after the exit of the operatives in case of fire. This door is to be of plank completely covered with tin, the joints of which are turned over. The hinges to the door are to be fastened by bolts passing clear through the door. This style of door is the proper one for inside purposes where one section of the building is divided from the others. This door will stand where the ordinary iron door would be curled up and drawn out of position by the heat. A scuttle fastened only by a hasp is to be placed in the roof over each stairway. This scuttle is reached by a flight of steps always in position. Elevators and elevator shafts are the causes of many accidents. At the best they are dangerous things, and need to be carefully guarded. The shaft forms a direct means of communication for the flames from the basement upwards; it is ever ready for the reception of any thoughtless person. The moving cage or platform crushes and maims, and the parted rope sends its precious load to the bottom of the elevator well, a mangled mass of humanity. The elevator should have safety self-locking attachments (to operate in case of a broken suspension rope), self-closing hatchways, and guards at each landing. One person should be designated to run each elevator, and he should be held strictly responsible for its proper use. Thus, detailing one person for this duty is entirely practicable, even when the elevator work is not enough to occupy his time. By a system of gong signals he can be called from his other work to run the elevator when required. A good sized gong bell is located in the elevator well, and strokes call as follows: One, basement; two, second floor; three, third floor; four, fourth floor; a clanging of several strokes, an emergency call. We have seen this plan most satisfactorily carried out for several years. If self-closing hatchways are not adopted, a sign marked DANGER should be suspended by cords or chains about five feet from the bottom of the elevator; this gives timely warning to those below of the descent of the elevator. Where there are projectiug cross timbers in the elevator well, their corners should be rounded, in order that nothing may be caught under them. All elevators should be provided with automatic shifting devices, to operate in case the carriage, from any cause, is left running. Ropes and chain falls should have a shifting lever attached to the beam, to be operated by a projection just above the hook. This runs the driving belt upon a loose pulley in case the winding drum is permitted to go too far. Proprietors should insist that all elevator operators, and all who ride upon *freight* elevators, maintain the standing posture, as then they are in position to use all their faculties in case of accident. It should, if possible, be a rule, upon all freight elevators, that only the operator ride. Many accidents are the direct result of "fooling" upon the slow freight elevators, where all are allowed to ride. In a factory with which we are acquainted, they have a very slow freight elevator, taking some two minutes to cover five stories. One warm day, the operator, having to go empty from the basement to the top store room, laid down upon the elevator platform. His head by some means came in contact with a timber; he would have been killed had not his cries quickly attracted the attention of one of the foremen, who stopped the elevator. As it was his scalp hung over his face, being held only by a hinge at the forehead. Had he been standing upright, the accident could not have happened.

The annual loss of life in attempting to escape from burning factories is appalling, and the subject of fire-escapes demands the most serious consideration.

Fire-escapes are of many forms. The best ones for general use, and the only kind that can be relied upon where women are employed, is the zig-zag iron stair system of ladders with *flat* treads, the whole to be of iron firmly secured to the outside of the building, and extending to the roof. Women are extremely sensitive about making any seeming exposure of their limbs. This fact, coupled with the confusion incident to fires, has, in the opinion of experienced persons, rendered the ordinary perpendicular ladder next to useless. With the flat treads the ladders are converted, practically, into steps; the inclination is easy, and an uninjured woman or child may descend in perfect safety, and without fear. This style of fire-escape enables a sound person to assist or bring down an injured or unconscious one.

In locating the ladders, select a side of the building that may be safely covered by the hosemen standing on the ground. Do not bring the ladders near the windows of rooms containing extra inflammable material, as by so doing the exit may be cut off in case of fire. For high factories, where men alone are employed, a good supplementary escape is one of the endless chain pattern, the rate of descent being graduated and controlled by an escapement or friction governor. These escapes permit a continuous line of persons to escape, as several may be upon the descending chain at a time. This style of fire-escape presupposes a strong pair of uninjured arms and hands, and full possession of the mental faculties. Another pattern of escape is where a belt encircles the body, and has a fractional device through which the rope plays, one end of which is attached to the window frame. We have seen a man descend one hundred feet by this means. This style of escape can have only a partial approval.

The simplest of all escapes is a rope long enough to reach the ground, and attached to the inside of each window sill, the rope, in loose coils, hanging upon a hook or pin, ready to be thrown out in case of danger. This simple rope escape is good for many purposes, but can not be regarded as a safe escape, as an injured person could not descend.

Where there is danger from sudden explosions or fire, and the building is not over three stories high, the "sliding poles," such as are common in the fire department houses, may be used. They afford a quick means of reaching the ground with comparative safety. Connected with the factory office there should be a sysem of electric bells and speaking tubes. In our factory they enter the telephone room at the office. At first we had several tubes, but we have found one general tube to be more satisfactory. At the office end, clustered around the mouth of the speaking tube, are the push-buttons for the electric bells calling the foremen. The foremen, in turn, have a button calling the main office; also one for each of the other foremen. By stepping to the tube and operating the buttons, one can speak with any or all of the foremen. The advantages of this system, in case of fire or other emergency, are apparent without further comment.

The escaping gas and odors from the water-closets are a fruitful cause of disease. The water-closets should all have a good "wash," and be trapped under the seat; and another trap should be added to the pipe as it nears the sewer. The closets of ordinary construction for the women should open from a commodious room, which is to be used as a dressing-room. The closet for the men should be provided with a lifting sub-cover, thus adapting it for either a water-closet or urinal. This suggestion may be objected to by some, but observation has convinced us that the combined affair is less offiensive than the separate system. For if the pans have the ventilating tubes connecting with the ventilating shafts, as is now common in all good plumbing, the constant wash of the pan will prevent all objectionable odors. The seats, pans and pipes are to rest upon iron supports.

The seats are to be of hard wood, well filled; no wood-work at the front. The floor should slope gently towards the front, and be covered with zinc nailed off with round-headed zinc nails, into squares of two or three inches on a side. This arrangement permits the free use of the mop in cleaning, and suggests a clean place with but little trouble. Many prefer the automatic operating valves, but we prefer the common method of handle and clain, as then any required amount of water may be used. If urinals are used, keep a piece of carbolic soap in each, and flush them often. All sinks and wash-bowls should be trapped. Have all the pipes in sight and accessible. Where chemicals are poured down the sinks use cesspool covers. These are circular pieces of wood covered on the under side with lead and rubber, and having an earthen knob on top. Ventilation should be such that a change of air is effected without drafts upon the head of any person. This may be accomplished by placing the top openings, whether into air shafts or to the outside, well up, and by keeping the inlet openings well down. Some years ago the writer served as a junior member upon a hall committee to overlook the construction of a hall devoted to social meetings. We had all suffered in the old hall from bad air and drafts of air, although the building was supposed to have an elaborate ventilating system. In our new hall we brought the hot air register to the center of the hall. In the wall of the building was placed a register connecting with an air chute, which also opened about the center of the hall. Half-round windows, opening downward, were placed near the ceiling. By manipulating the openings according to circumstances, a comfortable, well-ventilated hall was secured at any season of the year. A bald-headed person could sit under any of the open windows in this hall and not take cold. We believe that the drafts from the ordinary windows cause much sickness, and that the time will come when our advanced builders will imitate the best car builders, and have most of the windows tight, depending upon special appliances for ventilation. In all cases see that the new air is *pure air*. Drafts of air cause much trouble in every factory of which we have intimate knowledge. Many of these cases may be easily overcome. Probably persons do not differ as widely upon other physical conditions as upon exposure to currents of air. One man may work unaffected in a strong draft, to which his seemingly more robust shop-mate would take exceptions. In those portions of the country where lung troubles and catarrh are common, great care is required. The sensitive workman should be permitted, so far as possible, to select his location. Paper caps, having two ventilating holes, are useful in many cases.

An important contributor to health is the sunlight. The difference between a well and ill-lighted factory may be practically illustrated in every large city where houses that once were healthy homes are now sickly ones, the cause being directly traced to the shutting off of the sun's light by high buildings being erected near them. For fine work, where the eyes are constantly used, a north light is best, the workman sitting so he receives the light directly in front or at the left hand. This will not shade the work while using the right hand. An opposite wall is improved by giving it a coat of whitewash; this also gives a good background against which to sight work while testing it. An awning to each window, although expensive, is the best summer protection we have seen. The portions of a building most often neglected as to light are the hallways and stairways, and this neglect has produced many accidents.

"Double windows" are a protection in winter for exposed locations. When used, one light should be hinged for ventilating purposes.

We think the subject of lightning-rods requires no further consideration than that they be good ones, and put up in accordance with well-known laws of safety.

Do not place iron articles against them, as they may lead the lightning in a dangerous direction. The electricity reaching the ground during a thunder-storm is greater than many suppose, as the rain-water conductors carry down considerable. A friend of ours received a severe shock while adjusting a disarranged spout. If the roof has any considerable pitch it should be provided with fenders to break up and hold the snow and ice, thus preventing the too often disastrous slides. Special pains should also be taken as to the steps. See that the drip from the roof or porch does not fall upon them, and, freezing, make an icy covering. The steps, if of metal or stone, should, in a northern latitude, have a wooden covering in winter. Use sand upon the sidewalks and steps during an icy time. The weight of the snow itself is often dangerous, even in the case of well-constructed buildings, but it becomes more dangerous, owing to its increased weight, when saturated with water after a heavy rain-fall. In clearing the snow from the roof, see that the space where it is thrown is properly roped off and guarded.

From our own experience we are fully impressed as to danger from fire; and while we have alluded to the subject in other portions of this article, there are several matters that require detailed consideration.

The heating of the building is best done by means of steam-pipes surrounding the rooms. The pipes should be supported by iron brackets; and in no case are the pipes to come near wood-work, as fires have originated from this cause, the assertions of some ill-informed persons to the contrary notwithstanding. Where stoves are used they should stand in iron base-pieces, the edges of which are turned upward some two or three inches; this prevents sparks and loose particles of coal from falling on the floor. See that the stove-pipes are securely fastened by wires to the ceiling and chimney; that the pipe enters the brick-work flush with the flue; and if the pipe is carried through a partition, see that the thimble keeps the pipe well away from the wood-work. Keep the tops of the stove and steam-pipe clear of sawdust and dirt, and pile nothing that will drip or fall against them. In burning sweepings containing sawdust, do not crowd the fire too much with the door closed, as cases are known where the flames have, with an explosion, burst from the door when opened to put in a fresh supply. One person should, in each room, be directly responsible for the care of steam-pipes or stoves, and the ventilation. The temperature that will probably be the most acceptable to the majority of persons is from 68° to 72°. The lights in each room should be under the care of one person. This prevents a general use of matches. Gas-lighting should be done with the electric hand-torch, unless all the burners are connected with a system of electric wires igniting all at once. The gas should be shut off during the day, and after the building is vacated for the night, to prevent the leakage, that is always greater or less where the piping is extensive. In case of a fire happening when the gas is lighted, shut it off as soon as the building is cleared; this will shut off some fuel from the flames. The office supply may be drawn from a separate meter, or that supply-pipe may tap the main pipe between the shut-off and the meter. Some special provision should be made for the office, as that department requires gas at times when the factory is not running. Secure gas and kerosene fixtures from swinging against the wall or under shelves. Steady all pendent fixtures by means of wires. Place protectors over all lights that come near anything overhead. The writer has attended at least one fire caused by sparks adhering to the soot upon the bottom of a glue pot; hence the necessity of seeing that the fire is all out where the old-fashioned glue pots are still in use. We advocate the use of steam glue pots, not only for their safety, but for their other advantages. Oiled rags, saturated cotton waste, and all combustible waste material should be collected at the close of each day and deposited under the boilers. We know of one large furniture manufactory where several fires had occurred from the rags saturated with filling, which was of an exceedingly combustible nature. The proprietors, for their own safety, made a change for a less dangerous composition, but at an annual loss of $2,500. In our own experience we have seen a smoking fire from rags that have been saturated with filling only ninety minutes.

Ashes and all waste combustible material not at once put under the boiler should be deposited in riveted or seamed metallic receptacles, having metallic covers, and the whole placed out-doors at a distance from the buildings. The fires resulting from smoking have been so numerous in the past that now most well regulated factories have notices posted prohibiting smoking upon the premises. One of the most noted manufacturing establishments in the country, in order to avoid all possibility of danger, prohibits a pipe or a cigar being brought into the factory. The old-fashioned sawdust spittoon has yielded its full quota of fires, but fortunately they have been slumbering ones, breaking out in the dead of night, or on Sundays and holidays; so that the loss of life to be attributed to them is small. All spittoons should be of earthen or of metal. If an absorbent is required use dry earth or ashes, as then, if a match, cigar stub, or other combustible article is thrown in, no danger follows.

A special fire-proof building, at a distance from other buildings, should be devoted to the oils, turpentine, varnish, and kindred combustible stock, only a day's supply being removed at a time. When the boiler-room is left, even though temporarily, see that the openings under the boiler are closed. We had a fire in our factory, the result of a fifteen minutes' absence of the fireman, who left his under door open, also the one into the fuel room. A brisk spring breeze blew out a line of shavings that formed a pathway for the fire to a bin of very combustible material, and it was only after a stubborn fight that the building was saved. In establishments requiring the use of lenses, see that these articles are not left where they will focus. The writer once had a steroscopic view destroyed, the instrument holding it being left in a window. Matches should be kept in iron self-closing holders, the stock to be kept in covered tin or earthen vessels. Keep the yards and surroundings free from straw, old cases, and all rubbish. One of the worst fires we ever saw was a second fire catching in some straw by a spark from the original fire, a distance away. Keep the yard well wet down in dry times. If there is a shaving-chute, see that it is tight and does not drop any dust or shavings till the shaving bin is reached. This chute is to have a shut-off, which is to be promptly closed upon a fire alarm being given.

A volume might easily be written upon the dangers from naptha and benzine. Although the temptation is strong to use them, they should be banished from the factory. Where printing presses are used substitute turpentine for cleaning off the the rolls. Some of the carburetors in the market are very dangerous, from the fact that they use the dangerous products of petroleum, which, leaking through the service pipes, cause explosions if a fire or light is present. Keep telegraph and telephone poles away from the buildings, as the wires cause the loss of precious minutes to the firemen in raising the ladders.

The system of sprinklers introduced within the past few years affords great protection. Perhaps the best evidence we can produce in their support is the favorable opinion of the underwriters. Briefly, this system consists of pipes extending over the ceilings to the rooms, hall-ways, and stairways. These pipes are provided with a sprinkler about every eight feet. Each of these sprinklers is stopped by a cap held in position by fusible solder, melting for ordinary cases at

150° for engine rooms, or dry-houses at 200°. The water pressure being constant, a wetting down is assured in case of fire. In our factory we have had two occasions to test them. Each time they went off by the heated air or smoke, the live flame not reaching to them. Their work was regarded as most satisfactory. One pattern of the hand-grenade is in our house and in the factory. While these artiticles, perhaps, add another means of security, too much dependence should not be placed upon them.

The public tests of all this class of extinguishers seem satisfactory, but, from age or other causes, they seem to lose their power. Five of our quart size were thrown at a neighboring fire without checking it. We then ran out our private line of hose and stopped it. The automatic electric fire alarm sounds a bell when the heat reaches a certain point; this makes it an efficient monitor in case of fire. It is of especial value for store rooms and parts of the building not constantly occupied.

Electric light lines should be well guarded, as fires have resulted from their disarrangement. The wires, unless properly protected, are dangerous to the touch when the electric current is on. Accidents have resulted from the wires being touched. When the fire is the result of a defective electric light apparatus, use great caution in applying the water, otherwise the person throwing it may be knocked over. Throw the water from the pail so it will leave in a mass. If it forms a continuous stream a current is established. We can mention one fire from this cause, where two men, in trying to put it out, were repeatedly knocked over, until the cause suggested itself, when they threw the water in masses without further trouble till the current at the central supply was shut off.

The following constitute the fire apparatus outside the building: A hydrant with a hose attached; the hose is coiled up and safely "housed" from the weather in a closet erected against the wall. The wrench for turning on the water is also hung up in the closet. The door is simply buttoned; then any one may use the apparatus in an emergency. Against the wall, under a protection from the weather, hang a strong ladder, with spikes at the bottom end, a scaling ladder having hooks at its upper end, and a fire hook. This hook of iron, with a chain attached, is mounted upon a long, stout pole. A rope is attached to the chain. The inside portable fire apparatus, distributed at accessible points, consists of tubs and pails of water, fire axes, ropes with hooks attached for drawing up hose, and hand fire grenades (if they can be made to hold their vitality). Have at the foot of each flight of stairs a fire axe, a lantern filled with sperm or lard oil, and one or more pails of water. The water in the tubs and pails, if in a freezing temperature, is to be saturated with salt. Each workman should have his appointed place for fire duty. All the hose and hydrant couplings should have couplings corresponding with those of the local fire department.

Dust may be classed under two heads,—first, that ordinarily recognized as dust, being a miscellaneous collection of fine particles, containing more or less decaying matter; and, secondly, the finely disintegrated portions of material thrown off in the mechanical process of manufacturing. The first is easily managed, so an ordinary regard for neatness renders a detailed consideration unnecessary. The steam-pipes are apt too often to be neglected, the very fine dust accumulating being thrown off and mixed with the atmosphere when the steam is suddenly let on. The rooms should be swept after the day's work is done, using moist sawdust for a sprinkling. This keeps the dust down, and the floor will soon dry. Mechanical dust is more difficult to manage. The ordinary wood sawdust is now, in the best regulated factories, conveyed by suction, produced by a fan-wheel, to a bin, or room adjacent to the boiler-room, where it is burned under the boilers, with other refuse. These ducts, while serving an admirable purpose, are also dangerous in case of fire, furnishing a direct communication to the most inflammable portions of the factory, the shut-offs being the only safety. Dust from sanding and polishing machines, which are revolving disks, drums, or reciprocating surfaces covered with sand-paper, may be also withdrawn by the air blast into a bin or receptacle by itself. Black walnut sawdust is particularly offensive to persons of catarrhal tendencies, and needs to be carefully looked after. In case of metals, the dust may be removed from in front of the workman by suction or a blast of air. Persons who have been troubled from metal dust have been enabled to continue their work by growing a mustache, which caught the particles before they could reach the nostrils. In large cities and towns, where the water-supply is drawn from a common source, the water usually is good, but in isolated factories where resource is had to wells, great caution is needed to avoid pollution from drains, manufacturing waste, etc. The ice supply is hardly at all recognized as a source of danger, yet it is important that the ice used come from a clear body of water, and, if not in motion, large enough to furnish clear blocks of ice free from dirt. Do not use ice cut from small ponds, or the inlets of large ones, as these places are usually the dumping-places of dead animals, and other objectionable refuse. The most satisfactory method of cooling water we have seen, is where the water flows through block-tin pipes encircling the ice chamber. This gives water cold enough for ordinary purposes. Where the work is exhaustive, or the weather excessively hot, we recommend that broken ice be placed in a non-conducting receptacle. A piece of ice the size of a walnut held in the mouth will be refreshing. Before using water or ice rinse the mouth thoroughly. Evidently many of the so-called prostrations by heat should be attributed to the immoderate use of ice-water. In most manufacturing establishments there is a considerable amount of "handling" the goods in the process of manufacturing, transporting it from one part of the factory to another. This work is generally done by cheap and unskilled hands, and many accidents result from the lack of skill and the proper appliances for doing the work. Where the rooms are on the same level, and the pieces are large and heavy, a track should be laid, the rails of which are even with the floor. Upon this track the platform car is pushed. A differential pully block and chain raises and lowers the articles holding them at any point. For general factory use we have found the platform trucks to give satisfaction. These trucks are made of a length to be taken upon the freight elevator. They can then be taken up-stairs, down-stairs, run over the connecting bridge between buildings, through doorways, and, in fact, in any portion of the establishment where it is desired to carry goods. This truck is a wooden platform mounted on an iron axle and wheels, with a trail-wheel at each end. It has stakes which are removable. The tops of the wheels are below the surface of the platform. Some accidents result from handling cased goods, because the workmen cannot get hold of them. It is difficult to hold a heavy case with the hooks found in the hardware stores, but with a specially constructed hook our shipper claims he can hold as much as two men with the common hooks. Ours has a good point. The back curve is like the ordinary hook. The forward curve does not extend too far out, but enough to give a good leverage on the case or box. The handle or shank portion slightly recedes, and is flattened out so as to fit nicely between the fingers. The length is about double that of ordinary hooks. It is hard work for even a clumsy man to receive a "pinch" while using this hook.

Do not start the engine during the noon hour, or at other times when not expected, without giving due notice, as otherwise there is danger of somebody's being injured if he is cleaning or overhauling the machinery. There should be a complete code of signals for the engine-room, leading from every portion of the factory where machinery is used. The gong used should be of a size to be easily heard in the boiler-room, as then the stoker can shut off the engine if the engineer is temporary absent. Many distressing accidents happen by persons being caught in the shafting and machinery. The prompt stopping of the engine is of the utmost importance. In too many shops the engineer is also the steam and gas engineer of the establishment, and is more frequently found in the shop than in the engine-room.

Avoid oiling accidents by doing this work out of work hours (when the shafting is at rest), paying the workman detailed a special price for the constant supervision. The jars and motions communicated to the workmen by machinery and pounding are more injurious than at first supposed. The body absorbs the concussion, and produces a tired feeling upon all but the most robust.

The difference between a well and poorly conducted factory is as great as between riding in a Pullman and a caboose. Great care is needed relating to noise. Workmen on up-stairs floors should be cautioned against jumping from the benches to the floor, or dropping tools or heavy pieces of work. Sheets of thick rubber are used with good results under pounding-blocks, etc., to absorb the jar. Even in well-constructed buildings the addition of a special beam or brace will often prevent the trouble from jarring machinery. In our factory the annoyance from a fussy jig-saw, running at a high rate of speed, was overcome by this method. Heavy machinery upon the first floor would best rest upon a separate foundation.

For general purposes the best seat will be found to be the ordinary four-legged, wooden-seated stool, with a home-made back added. This back is a thin piece of springy board, the top rounded off and bolted to the seat and lower round. This seat is easily mounted and dismounted. For persons standing or sitting, a foot-rest will be found of great service, for, by frequently changing from one foot to the other, the limbs are kept in a good condition. This is important to rheumatic and heavy-limbed persons. Experience has taught us, that, other things being equal, in making a journey we should select a route having cars with side foot-rests.

Saws are the leading element of danger in many factories. Probably ninety per cent. of all the accidents are the direct result of the violation of that golden rule, "Never put your hand *back* of a running saw." A piece of wood sticks a little, or a chip lodges at the back of the saw: the temptation presents itself for the workman to remove it without stopping the saw. He takes the risk, and perhaps carries a mutilated hand through life as the result. At the back of medium and large splitting saws, use a "horn." This keeps the cut open, and permits the saw to do its duty without pinching. Saws, in many kinds of work, may be covered, presenting only a slight cutting surface. Many of the circular saws are made for special work, and differ from the old-fashioned type in that a certain proportion of the teeth are hooked, instead of pointing outward. A workman would be badly mutilated on the former saw by his hands being drawn in, while the latter would have a negative if not a repelling motion. It will be seen why these new saws demand great care upon the part of those running them. The foreman of our wood-shop says "he does not want a man to touch a saw who is afraid of it." He instructs a new hand as to the dangers, how to avoid them, and expects a cautious confidence to do the rest. During his administration of several years there has not been a serious injury in his department.

Universal moulding-machines, and others of that class, using a post or cutter-head for holding the cutters, are most dangerous articles. The tendency is to draw in anything brought in contact. The general remarks applied to saws apply to these. There is one danger from these machines, even to the experienced hand—that is, he may forget, when shifting the knives, to tighten them up if his attention is temporarily called away. We had one accident of this nature in our factory. It has been said there is not a person who has run one of these machines any length of time who has escaped without mutilation or cuts. We cannot contradict the assertion from our own knowledge.

In showing visitors over a manufacturing establishment, request them to lay aside their cigars, and impress upon them the importance of considering each piece of machinery as in motion. A nicely running saw or cutter-head, to many, conveys the idea of an object at rest.

Grindstones, if running at a high speed, should be covered. They, as well as emery wheels, should be placed in a room by themselves, or in a corner, out of the way of the other workmen. Many bad accidents have been the result of broken wheels. Fewer belt accidents would occur were loose pulleys more generally used, instead of leaving a belt to hang on the shaft when not in use, and putting on while running.

Some workmen have a practice of laying down their tools with the cutting end projecting over the edge of the bench. This is done to save the cutting surface. A better plan is to lay the tool point away from the workman, and resting on pieces of wood on the bench. We recall a case of a marketman, who, leaving his knife pointing outward, jumped forward in the act of hanging up some mutton, and received a fatal wound.

The liquor question, in a general way, it may not be proper for us to consider, but in its bearings upon factory life it is important. No workman should be permitted to work while under the influence of liquor, nor to run a piece of machinery till he has fully recovered from the effects of a spree. The chronic disordered condition of some workmen, after vacations and holidays, has caused many liberal-minded employers to contract the days off to the smallest possible number.

Accidents arise from amateur railroading, as in many cases the workmen act as switchmen or brakemen where side tracks enter the factory grounds. If possible, the side track should be in a straight line, as then a fair view may be had. Cars should not be moved at all without timely instruction and notice. It is quite common, where there are several cars, to leave one or more spaces for a passage-way through. Fatal accidents have resulted from pushing the cars together without notice. Reckless engineers delight in giving the cars a good "kick" in switching, when they know a green hand is at the brake. This trick was played upon a friend of ours upon his own premises. Had one of his men been at the brake, a fatal accident would have been the result. Even with his experience and strength, the car reached the dead end with a force that threw him from the car, leaving him hanging from the brake by his powerful arms.

Machinery kept constantly running and under inspection is less liable to break down and cause accidents than where it remains idle a good portion of the time.

Where the workmen are of good habits it is better in depressed times to give vacations in turn rather than close entirely or to give full work to only a few.

We believe in placing a seriously injured person as soon as possible under the care of a competent surgeon. In most places a few minutes must elapse before such skill is obtainable, hence the importance of such intelligent action as will present the patient to the doctor in the best condition. Concise elementary directions in case of accidents, published under medical supervision, are now obtainable in the large cities. These are printed upon cardboard, and at least one of these notices should be posted in every factory. To supplement and carry out the medical directions recommended an emergency box should be kept safely in some known place and under the charge of some cool-headed, intelligent person. The emergency box should contain a few bottles of medicine, such as brandy, arnica, etc., prepared by an apothecary, each bottle properly labeled. The selection of the medicine should be left to a doctor or to an apothecary who has knowledge of the dangers of the factory. Besides the above each case should contain a Martin's rubber bandage and a piece of rubber tube for tying; some small, strong rubber bands. These articles are for use in case of bleeding. A box of surgeon's plaster, cloth bandages, sponge, graduated glass (tea and tablespoonfuls), a medicine holder with spout, and a folding fan.

From a lay point of view we think the medical gentlemen have, in their instructions, given all that is required where assistance is within easy call, excepting the manner of handling. This subject has not received the attention it should, as "kind hands" are often very ignorant and clumsy. We believe a series of illustrations, showing the proper manner of lifting and supporting sick or wounded persons, would be of great benefit not only to the factory, but also for the home.

A factory located in a good-sized city has the advantages of hospital ambulance and police patrol service. Where such wagons are in use we recommend that each factory should own a stretcher fitting the vehicles. By this means a disabled person may at once be laid upon a stretcher ready for the hospital attendants upon their arrival. For other purposes use a stretcher constructed in accordance with the views of the local doctor, not, however, losing sight of the removable handles, by which means in severe cases the handles may be removed, leaving the canvas upon the bed and under the patient.

To obtain the *best* medical attendance is often a serious matter for the disabled mechanic, owing to his lack of funds. The public hospitals in the large cities are all that could be expected, but they cannot cover the whole and take care of every one needing medical assistance. Every establishment employing one hundred hands or over should organize a mutual relief association for the purpose of paying medical fees and nursing. The money could be used for paying for a free bed in some hospital. Where this convenience does not exist an upper room in some comfortable building should be secured for the dangerously sick or wounded. We think in an establishment of ordinary risk a regular contribution of ten cents a week will be sufficient to pay all ordinary demands; any excess to be assessed, but not to exceed twenty-five cents in any one week. Many workmen regard going to a hospital as but one remove from entering a jail. This ignorant idea should be dispelled, and would be by an acquaintance with any good hospital where trained nurses are employed. This idea, we feel, is quite common; and more popular information is required, so that a man will believe that he enters a hospital to be *cured* and not to die.

A shop danger (but, thanks to local health officers, a lessening one) is that from contagious diseases. Most American-born workmen recognize and respect the benefit of restriction in such cases. Many of foreign birth disregard these limitations and recklessly endanger their fellow-workmen. As the latter are almost invariably the ignorant and most superstitious, relying upon charms rather than upon medical skill to effect a cure, the remedy suggested would seem to be restraining power first, then popular instruction. We consider the subject of personal cleanliness of more importance than the general shop condition. We know of a painter who attributes a large portion of the sickness of his trade to their handling their food and face with soiled hands, his rule being to keep his hands away from his mouth unless they are perfectly clean. The hair and whiskers require to be kept clean. Few persons are aware how readily they absorb and hold impurities and particles from the atmosphere. In cleaning up a few drops of ammonia in warm water will be found an excellent wash for the hair and whiskers, as it is, indeed, for the rest of the body. Hot water cannot always be conveniently carried over a building. In our factory we overcame the difficulty in this way: Our washing-up sinks are the ordinary long iron ones. At one end is placed a copper vessel holding several gallons. A cold-water pipe leads to this vessel, and a steam pipe enters it. By turning the steam valve the water may be blown up and heated as hot as desired. The hot water from this tank is dipped into the basin and tempered from the independent cold-water faucet to suit.

Workmen who bring their dinners should be furnished with facilities for heating or making tea or coffee. The refuse of all fruits, peach stones and banana skins in particular, should be thrown into some proper receptacle. The floor is a most dangerous place when sprinkled with these articles.

Persons at work over poisonous substances should talk but little while at work; by so doing they breathe more through the nose. We have in mind a great talker—a painter—whose system seemed to be charged with the white lead paint which he applied to small articles upon the bench before him. His room-mates, of a less gossiping nature, escaped seemingly uninjured. The above occurred in a better lighted and ventilated paint room than is ordinarily seen. The physician summoned to this painter quickly diagnosed the trouble as lead poisoning, and stated the cause as readily as though he had been a shopmate.

Most factories abreast of the times, whether engaged in metal, wood or textile manufacturing, have special processes in which the use of poisonous chemicals is required. These should be kept in glass or earthen receptacles, properly labeled with the word "Poison," the antidote also being added. The best chemists now furnish their preparations thus labeled.

Economy of space in some buildings requires that the overhead (ceiling) spaces be used. Where this is done keep the articles hung up away from over the work-benches as much as possible. Use hooks or pins, the outer ends of which are the highest. This prevents jars sending down the articles hung up. Pack goods on overhanging shelves so they cannot be shaken down. Keep tools, flower-pots, etc., off the window-sills unless there is a guard to the window. One of our most respected State Governors, now in office, once had a narrow escape from a flower-pot that fell from an upper window.

Observation has convinced us that the ordinary set rules, no matter how well framed, are distasteful to the average person, and fall short of the mark. Our attention was recently called to a set of rules for the guidance of a large bindery and printing establishment. It would hardly be possible for any one to comply with all the requirements. One rule, however, so covered the whole that we repeat it from memory: "An honest day's work will be required for a full day's pay." Any person who is not willing to comply with this should be discharged. Each foreman should be held accountable for those in his immediate department, and he should have authority to discharge for cause. He should be consulted in taking on new hands.

The introduction of special machinery in almost every manufacturing department has, in our opinion, a tendency to dwarf the man mentally, less skilled hand-work being required than under the old system. What we now consider as a trade was once only a part of a trade. This dwarfing of the mental faculties requires a counteracting influence, which must, we believe, come mainly through reading. We advocate anything that will enlarge and improve the mental condition. In view of the above we recommend that each establishment have only the common rules posted, such as relate to smoking, elevators, etc., and that all details be printed in book form and given to each person employed. This book is to convey, in the way of *suggestions*, what is expected. The ideal must not be above the reach of any person in the factory. The truth should be advanced that the interests of the employer and employes are identical. Each person should feel that he is responsible for not only his own welfare, but also for that of his shopmates. We believe such a presentation of the case will arouse in each workman an idea of his responsibilities, and a purpose to incorporate the suggestions in his daily shop life.

THE DISPOSAL OF THE WASTE OF CITIES.

BY JOHN N. TAYLOR, M. D.

Notwithstanding some years of intelligent experimentation, the effectual and economical disposal of the waste of cities is still an unsolved problem, demanding instant answer, but finding none that is entirely satisfactory. The Œdipus who shall solve the riddle, and abate the annual plagues that still ravage our cities in consequence of infection bred from waste, is yet waited for with as keen a desire as ten years since, when the more systematic attempts to accomplish this object began.

One step in this direction, however, has certainly been taken. It has been determined beyond any peradventure by the experiments of the Massachusetts and Connecticut State Boards of Health, by that of Illinois, by investigations made by Dr. Prudden of New York, and those of the committee of the American Public Health Association etc., etc., that to discharge the waste of a city into a contiguous waterway is but to give unmeasured liberty to a potent enemy to life and health. Prudden found the germs of typhoid fever in the broad waters of the Hudson, and the committee of the American Public Health Association found dangerous organic matter in the mightier current of the Mississippi. If the waters of these great rivers are inadequate to dilute sewage to a point of absolute safety, what a menace to the health of our capital city there must be in those of White River; particularly in midsummer when the volume of water is so greatly diminished?

Many plans to destroy the innocuous qualities of waste have been proposed including sewage farming electrolysis, chemical treatment etc., but the ideal plan is now, as it was anciently, by fire; but how to employ this greatest of all purifying agents effectually, as well as economically, is the question.

When experiment began to be made with the various garbage crematories, many of the State Boards of Health sent representatives to Montreal, Wheeling, Pittsburgh and Des Moines to investigate and report results.

Being somewhat straitened for funds, the Indiana State Board of Health waited until the verdict of the examiners seemed to favor the Mann crematory, and then sent a representative to Chicago to examine one of that pattern operating under the supervision of the Chicago Board of Health. Subjoined is a description of the same, with estimate of capacity and amount of fuel required per day.

The crematory is situated in an abandoned stone quarry, near the western suburb. It is essentially a triple furnace, with a central chimney, having a capacity double that at Montreal, being the largest in operation to-day. Its length is sixty-nine feet, width something over eighteen feet, height twenty-one feet. This is divided into three compartments, being, in fact, two large and one small furnace, in the middle of which the smokestack rises to the height of ninety feet, having a diameter of about four feet. The fire blast is at either end and in the middle, above which are the grates upon which the garbage is thrown. The grates in the south furnace are at an elevation of about three feet above the base. They rest upon a building wall eighteen inches thick, upon each side of which is a heavy iron beam. This consists of four sets of iron bars, each set having forty-eight bars. The space between these is one and one-half inches. The bars are freely movable.

The north furnace is divided into two sections, between which is interposed a seventeen-inch wall of fire brick. The middle furnace consists of a single compartment. The whole inner space is enclosed in a brick wall twenty-eight inches thick, lined with the best fire brick. This thick mass is required to hold the heat and at the same time endure the intensity of it. Three tiers of doors afford entrance to the furnace. Through the upper doors is thrown the garbage. The stirring is done through the middle doors, and the ashes and debris is raked out through the lower ones. A shed ninety feet long, fifty-two feet wide and twenty-eight and one-half feet high encloses the whole. The roof of the shed is on a level with the street. The garbage wagons drive upon it and, through convenient chutes, deposit their contents upon an iron platform immediately in front of the upper tier of doors, from whence the material to be burned is raked into the fire. Eight wagons can unload at once. The entire cost of the furnace was $11,287.60. When running at its full capacity it will burn 150 yards of garbage in twenty-four hours. Its ordinary rate of consumption is fifty yards per day. To do this requires nearly seven tons of soft coal per day. This amount might be considerably lessened, however, were the garbage classified. Animal refuse will furnish its own heat largely, while vegetable matter, with its 80 per cent. of water, will require a great deal more. Cans, bottles and like matter are a serious hindrance to a cleanly disposal of refuse, but require to be purged by fire before being cast away.

The furnace above described disposes of the garbage belonging to that portion of the city known as the "West Side." It will require several more such furnaces to take care of that of the entire city.

The system of gathering the garbage might easily be improved upon. There should be printed instructions posted up in every house, and a strict classification should be made by the parties depositing refuse.

Of late the city of Buffalo has adopted and now has in use, the Vienna, better known as the Merz system. Buffalo was forced into procuring a Merz plant by a body of men known as the "Niagara River Protective Association," who procured an injunction against that city, forever restraining it from discharging its refuse into the Niagara river; the complainants claiming that the water was thereby polluted and rendered unfit for use. The inhabitants of the towns along the river from Buffalo to Ontario joined in the fight and aided considerably in procuring the injunction. If these people feared the contamination of such a current as the Niagara, how much more ought the dwellers along the banks of the White River fear its sluggish and scanty waters?

The Merz system now divides the honors of first place in the catalogue of garbage destroyers, with the Mann Crematory, and, therefore, its claims should be carefully considered. A full description of the apparatus is found in a pamphlet which may be obtained of G. H. Aumack, Secretary of the "Merz Universal Extractor Company," No. 60 Pearl street, Buffalo. Briefly, it consists of a "dryer" and an "extractor." The dryer is a large iron cylinder enclosed within another, with a space between for steam. The garbage is thrown into the inner cylinder, which is furnished with revolving arms which constantly stir it. Steam heated to 300° F. is forced into the chamber between the cylinder. This heat drives off all moisture, which together with the gases is drawn by suction fans into a condenser, from whence they emerge as water, possessing but little odor. The dried mass is then placed in the "extractor" where it is treated with certain chemicals which extract the grease. The residue is then screened and used for fertilizing purposes.

It is claimed that the Merz extractor may be located in the heart of a city, and yet create no nuisance, being both smokeless and odorless. The expense of running it is not so great as that of a furnace, while certain valuable constituents of the garbage are saved and subsequently utilized.

The consideration of the disposal of the waste of cities leads the sanitarian to the following conclusions:

1. Many of the disorders incident to hot weather, spring from infection bred of waste.
2. These can largely be abolished by the effectual destruction of waste.
3. To discharge waste into the waterways does not destroy it, but on the contrary, serves but to multiply indefinitely the germs with which it is surcharged, while the area of their distribution is much increased.
4. Fire certainly renders waste innocuous. Chemical treatment probably accomplishes the like result. Therefore, one of these agents should invariably be used. Such of our towns as have an abundant supply of natural gas should all be furnished with crematories for destroying their refuse. The intense heat would, without artificial aids, accomplish the work most effectually. While the cost aside from that of the plant itself would be small.

Besides the advantages indicated above, the use of garbage destroyers would gradually reclaim our beautiful streams of water from their present filthy abuse. One might then look upon them, not as so many foul sewers, carrying upon their bosom's unmeasured possibilities of sickness and death, but as the things of beauty and helpfulness that they are when in the state of nature.

LIST OF PHYSICIANS.

Abbreviations—R., for regular; E., for eclectic; H., for homeopathic; P.-M., for physio-medical; N. R., not reported; D., for diploma; figures 3 and 10, number of years practice.

This list is furnished by county health officers, and any mistakes that occur in spelling names, or omissions, are attributable to them.

The names of county health officers are printed in capitals.

Adams County.

Name.	*Post Office.*	*School.*
Aspy, Hiram M.	Geneva	R. 3
Andrews, O. P. M	Monroe	R. D
Boyers, J. S.	Decatur.	R. D
Broadwell, Wilmer.	Berne.	R. D
Bergman, Noah	Berne.	R. 10
Beavers, S. D	Decatur	R. D
Coverdales, J. S	Decatur	R. D
Costello, H. F.	Decatur	R. D
Darwin, T. T	Decatur	R. 3
Freeman, B. R	Decatur	R. D
Ford, A. C	Geneva.	R. 3
Holloway, A. G.	Decatur	R. 3
Harper, J. L	Pleasant Mills	R. 10
Houghton, Asa	Linn Grove.	R. 10
Hill, J. C	Pleasant Mills	R. 10
Hughes, Alexander.	Monroe.	R. 10
JELLEFF, C. A	Decatur	R. D
McMillen, W. W. P	Decatur	R. D
McDowell, Jacob.	Geneva.	R. 10
Mann, Jesse E	Decatur	H. D
Mann, N. H.	Decatur	H. D
May, O. T	Monroe	R. D
Rainier, Chas.	Monroe	R. 10
Schiltnech, V. G.	Geneva	R. D
Springer, Peter A	Berne.	R. 10
Trout, Dallis G. M	Decatur	R. D
Thomas, P. B.	Decatur	R. D
Walser, J. A	Lin Grove	R. 3
Ward, J. B	Geneva.	R. D
Willson, W. W	Decatur	H. D
Zimmerman, Chas A	Berne.	R. 10

Regular, 38; Homeopathic, 3.

Allen County.

Name.	*Post Office.*	*School.*
Adams, Horace E.	Woodburn	R. 10
Allen, Daniel M	Harlan	R. 10
Atwood, Emma S.	Fort Wayne	R. D
Barteley, R. W	Fort Wayne	E. D
Barnett, W. W	Fort Wayne	R. D
Bevier, Wm.	Waterloo	E. D
Boswell, A. J	Fort Wayne	R. D
Beaty, Marshall	Fort Wayne	R. D
Boerger, H. A.	Arcada	R. D
Bradi, G.	New Haven	R. D
Buchman, A. P	Fort Wayne	R. D
Bilderback, J, W.	Harlan	R. 10
Blade, Philip	Fort Wayne	E. 10
Bowen, Geo. W.	Fort Wayne	H. D
Bruebach, G. F.	Fort Wayne	R. D
Carey, D. B	Academy P. O.	R. 10
Coblentz, Jacob W	Fort Wayne	R. 10
Cutshall, Geo. W.	Arcola	R. D
Chambers, J. D.	Fort Wayne	R. D
Connelly, W. A.	Monroeville	R. D
Cosgrove, Frank K.	Harlan	R. D
Chandler, Geo. E.	Fort Wayne	H. D
Derbyshire, Luella M.	Fort Wayne	R. D
Depler, R.	Fort Wayne	E. —
DILLS, THOS. J.	Fort Wayne	R. D
Dinnen, Jas. M.	Fort Wayne	R. D
Engle, A	Monroeville	R. 10
Ferguson, W. T.	Fort Wayne	R. D
Greenwell, F	Huntertown	R. D
Greenewalt, Geo. L.	Fort Wayne	R. D
Guenther, J. W.	Harlan	R. 10
Green, Frances M.	Fort Wayne	H. D
Gard, B.	Fort Wayne	E. D
Gregg, Jas. S	Fort Wayne	R. D
Gordon, Chas. M	Harlan	R. D
Gilbert, C. L	Fort Wayne	R. D
Harris, L. P.	Fort Wayne	H. D
Harris, Ella	Fort Wayne	H. D
Hetrick, Jacob	Fort Wayne	R. D
Hersler, Geo. F	Fort Wayne	H. D
Houghton, L	Huntertown	R. D
Hull, Jacob	Harlan	E. D
Holloway, A. G.	Fort Wayne	R. 10
Holloway, M. L.	Fort Wayne	R. D
Jones, J. H	Fort Wayne	N. R. 10
Kesler, A. J.	Fort Wayne	R. D
Knade, R. S.	Fort Wayne	R. D
Kryder, Jno. L	Cedarville	R. D
Lipes, R. F	Heeler's Corner	R. D
Lauback, A. J	Fort Wayne	R. D
Lamb, B. F.	Fort Wayne	R. D
Leiter, Chas. H.	Monroeville	R. D
Martz, Chris	Fort Wayne	H. D
Martin, Isaac	Fort Wayne	R. D
Meshang, C. F	Fort Wayne	R. D
Metcalf, S. C	Fort Wayne	R. D
Miller, Jas. E.	Fort Wayne	R. D
Morgan, Joseph	Fort Wayne	E. D
Morrison, T. R	Heller's Corner.	R. D
Murphy, Geo	Leo	R. D
Myers, Isaac N	Maples	R. D
Myers, Herschel	Fort Wayne	R. D
Myers, W. H	Fort Wayne	R. D
McCausland, J. W	Fort Wayne	R. D
McCormick, T. H.	Fort Wayne	R. D
McCoskey, Geo. W	Fort Wayne	R. D
McCullough, T. P.	Fort Wayne	R. D
McCullough, H	Fort Wayne	R. D

Allen County—Continued.

Name.	*Post Office.*	*School.*	
McOscar, E. J.	Fort Wayne	R.	D
Nusmonder, H. W	Fort Wayne	R.	3
Null, Lycurgus	New Haven	E.	D
Omo, Jos. H	Harlan	R.	D
Proegler, Carl	Fort Wayne	R.	D
Porter, Miles F	Fort Wayne	R.	D
Pozneer, Geo. W	Fort Wayne	R.	D
Rauseh, A. G	Fort Wayne	R.	3
Ross, Geo. A	Fort Wayne	H.	D
Rosenthal, Isaac M.	Fort Wayne	R.	D
Reed, Ezra L.	Fort Wayne	R.	10
Ruhl, Wm. DeLa.	Sheldon	R.	D
Rechet, C. M	Fort Wayne	R.	D
Searles, Jos. D	Fort Wayne.	N. R.	10
Smith, C. S	Fort Wayne	R.	D
Smith, Jos. L.	Hoagland	E.	D
Stemen, C. B	Fort Wayne	R.	D
Stemen, Geo. B	Fort Wayne	R.	D
Seaton, Jno. R	Fort Wayne	R.	10
Shutt, L. C	Fort Wayne	R.	10
Siver, E. L	Fort Wayne	R.	D
Shutt, Jno. M.	Harlan	N. R.	2
Swift, C. F.	Harlan	R.	D
Stedd, Sam'l D.	Nine Mile	R.	D
Sweringen, Hiram M.	Fort Wayne	R.	D
Sturgis, Lewis T	Fort Wayne	R.	D
Shultz, Jos. E.	Fort Wayne	R.	D
Shultz, Chas.	Fort Wayne	R.	D
Shultz, John A.	Fort Wayne	H.	D
Schilling, Carl	Fort Wayne	R.	D
Thayer, Frank	Fort Wayne	R.	D
Van Buskirk, A. E	Fort Wayne	R.	D
Whery, Wm. P	Fort Wayne	R.	D
Woodworth, B. S.	Fort Wayne	R.	D
Williamson, M. F.	New Haven	R.	D
Wheelock, K. K.	Fort Wayne	R.	D
Worley, Geo. N.	Poe	R.	D
Wenger, N. P.	Coesse	R.	D
Worden, Jas. W.	Fort Wayne	R.	D
Young, Jno. M	Fort Wayne	R.	D

Regular, 107; Eclectic, 9; Homeopathic, 9; not reported, 3.

Bartholomew County.

ARWINE, J. S	Columbus	R.	10
Allen, W. H	Waymansville	R.	10
Allerr, Thos. E	Unknown	E.	D
Abbett, W. R	Elizabethtown	R.	D
Biddinger, S. W	Waynesburg	E.	10
Banker, A. J	Columbus	R.	D
Beck, W. H	Hartsville	R.	D
Barrett, S. J	Columbus	R.	10
Butler, C. H	Clifford	R.	10
Banks, W. H	Waymansville	R.	10
Butler, W. H	Columbus	R.	D
Bernard, G. W	Taylorsville	H.	D
Carmichael, W. T	Walesboro	P.-M.	D
Cosbey, Geo. O	Burnsville	R.	D
Clark, I. S	Columbus	R.	10
Davis, Jos. H	Azalia	R.	10
Dickman, Fred	Hope	H.	10
Elrod, M. N	Hartsville	R.	D
Falk, Fred	Columbus	R.	10
Francis, E. T	Columbus	R.	D
Fogle, E. T	Newburn	E.	D
Galloway, C. E	Columbus	R.	D
Hudson, J. B	Columbus	E.	D
Hauzer, Z. H	Columbus	R.	D
Hawley, K. D	Columbus	R.	D
Holder, R. E	South Bethany	R.	D
Howe, O. E	Taylorsville	R.	D
Kincaid, S. F	Taylorsville	E.	D
Kent, C. V	Hope	R.	D
Kennedy, S. Y	St. Louis Cross'g	R.	D
Lawrence, W. M	Jonesville	E.	3
Linton, S. M	Columbus	R.	10
Moore, C. A	Columbus	E.	D
Mennett, O. H	Jonesville	R.	D
McLeod, A. J	Columbus	R.	D
McCoy, Geo. T	Columbus	R.	D
Morris, S. H	Columbus	R.	3
Mulvey, J. W	Columbus	R.	D
Miller, M	Columbus	R.	D
Martin, J. W	Columbus	R.	D
Norton, F. D	Petersville	R.	D
Newton, W. T	Hope	R.	D
Roope, R. H	Columbus	R.	D
Roesgen, J. P	Columbus	R.	10
Rice, A	Columbus	H.	D
Richards, F. B	Taylorsville	R.	10
Regennas, E. G	Hope	R.	D
Randolph, D. F	Newbern	R.	D
Shane, T. A	Columbus	H.	D
Stapp, S	Hope	R.	10
Smith, T. E	Columbus	R.	3
Smalley, J. K	Hartsville	R.	D
Tobias, J. M	Hartsville	E.	D
Thompson, D. A	Elizabethtown	R.	D
Voris, S. M	Columbus	R.	D
Weisner, W. E	Columbus	R.	D
Weisenberg, J	Waymansville	R.	10
Wright, J. F	Columbus	R.	D
Wray, H	Hartsville	R.	10

Regular, 46; Eclectic, 8; Homeopathic, 4; Physio-Medico, 1.

Benton County.

Bristow, Joseph	Oxford	R.	D
Boice, A. C	Earl Park	R.	3
Beard, J. M. G	Ambia	R.	D
Baerlocher, Finton	Earl Park	R.	D
Baker, Geo. W	Oxford	N. R.	10
COOK, CLARK	Fowler	R.	D
Christley, J. B	Boswell	R.	10
Cook, M. D	Oxford	N. R.	10
Fall, C. W	Templeton	R.	3
Green, Nellie E	Fowler	R.	3
Gray, Wm. H	Wadena	E.	D
Gray, James A	Otterbine	R.	D
Green, J. W	Boswell.	R.	3
Hunter, A. F	Raub	E.	D
Hard, A. D	Ambia	R.	D
Kinney, J. F	Oxford	E.	D
Kolb, Jonathan	Oxford	R.	10
Mavity, Jas. S	Fowler	R.	D
Moore, A. V	Ambia	R.	D
McConnell, H. C	Oxford	E.	D
Purdy, A. J	Fowler	R.	D
Roberts, S. R	Fowler	R.	D
Rodman, Jas. M	Fowler	R.	10
Thompson, T. J	Otterbine	R.	D
Wells, A. W	Swanington	R.	D
Whitcomb, J. W	Boswell.	R.	D

Regular, 20; Eclectic, 4; not reported, 2.

Blackford County.

Name.	Post Office.	School.
Alexander, Jas	Hartford City	H. 10
Adams, Mary E	Hartford City	P. M. D
Bennett, H. H	Montpelier	R. D
Clouser, N. D	Hartford City	R. 10
Caldwell, David C	Mill Grove	R. 10
Clinhens, Philip R		P. M. 10
Crum, J. W	Roll	R. D
Cronin, W. N	Hartford City	R. D
DAVISSON, H. C	Hartford City	R. D
Drayer, Peter	Hartford City	R. D
Dill, N. C	Montpelier	R. D
Downey, Hiram J	Hartford City	R. D
Fisher, Martin L		P. M. D
Fruth, David O		P. M. D
Harrold, J. R	Roll	R. D
Hardin, Alfred	Hartford City	P. M. D
Kitzmiller, E. A		H. D
Landon, L. C	Priam	R. 10
McFarland, J. E	Mill Grove	H. 10
Morrison, Jno. A	Montpelier	R. D
Mason, C. R	Hartford City	R. D
Paul, P		H. D
Sage, Jno. W	Hartford City	H. D
Sellers, John	Montpelier	R. D
Stuart, John G		R. D
Sanborn, J. H	Hartford City	R. D
Scott, Willis L	Hartford City	R. D
Ransom, John A	Montpelicr	R. D
Wheeler, W. H	Hartford City	H. 10
Wilt, W. W	Montpelier	R. D
White, Robert D	Montpelier	H. 10

Regular, 19; Physio-Medical, 5; Homeopathic 7.

Boone County.

Austin, F. H	Jamestown	E. D
Ball, Joseph P	Lebanon	E. D
Bounel, Math. H	Lebanon	R. D
Benington, A. M	Max	R. 10
Banta, Sam'l J	Jamestown	R. 10
Burke, George L	Jamestown	R. 10
Bounel, Thos. A	New Brunswick	R. 3
Brown, Eli L	Thorntown	E. D
Boyd, John M	Thorntown	R. D
Buttery, Margaret A	Reese's Mills	R. 10
Coons, H. N.	Lebanon	H. D
Clark, A. J	Zionsville	R. D
Curtis, John E	Hazlerigg	R. D
Dunington, Andrew	Thorntown	R. 10
Davis, D. B.	Thorntown	R. 10
Everett, W. E	White Lick	R. D
Finch, A. M	Jamestown	R. 3
Heady, W. S	Jamestown	R. D
Hardy John S	Whitestown	R. D
Hawk, Joseph R	Thorntown	P. M. 10
Hurt, George K.	Elizaville	R. D
Jones, R. C	Lebanon	R. D
Jordan, Thos. W	Whitestown	R. D
Jones, A. B.	Lebanon	R. D
Johns, Wm. D	Gadsden	P. M. D
Kane, John M	Rosston	R. D
Kellogg, N. P.	Lebanon	E. D
LANE, THOS. H	Lebanon	R. D
Lader, Chas. C	Advance	R. D
Lader, Jennie C	Advance	R. 10
McKee, Joseph A,	Big Spring	P. M. D
Miller, A. O	Lebanon	R. D
Myers, John M	Terhune	R. D
Orear, John H	Jamestown	R. 10
Porter, A. G	Lebanon	R. D
Porter, John B	Lebanon	R. 3
Purdy, Joseph C	Terhune	R. 3
Reagan, Jesse S	Lebanon	R. 10
Roberts, Joseph D	Whitestown	E. D
Rose, Madison H.	Thorntown	R. D
Smith, Carter H	Lebanon	R. D
Scull, D. C	Lebanon	R. 3
Steelsmith, J. M	Terhune	R. D
Silvey, H	Hazlerigg	R. 10
Turner, Thos. S.	Milledge	P. M. D
Trobridge, Reese	Lebanon	R. D
Umberhine, C. D	Reese Mills	R. D
Utter, Joseph A	Thorntown	H. D
Vanausdall, G. M.	Jamestown	R. D
Ware, W. H.	Cason	R. 10
Whitenack, John H	Zionsville	R. D
White, A. F.	Zionsville	R. 10
Walker, D. R	Reese Mills	R. D
Worley, O. P	Elizaville	P. M. D
Van Nuys, D. H	Lebanon	R. D

Regular, 43; Eclectic, 5; Homeopathic, 2; Physio-Medical, 4.

Brown County.

Browning, Nathan	Needmore	R. 3
Campbell, James B	Bean Blossom	R. 10
Fleener, Joseph N	Needmore	E. 10
Fritch, Joseph	Richards	E. 10
Griffith, Arnold S	Story	R. D
Genolin, John F	Nashville	R. D
Leonard, John H	Elkinsville	E. 10
Moser, James P	Spearsville	R. D
Mossop, Stephen B	Belmont	N. R. 10
Ralphy, Alfred J	Nashville	R. D
Ross, John C	Belmont	R. D
Wilson, Samuel C	Pike's Peak	P. M. 10
Ward, James G	Bean Blossom	R. 3

Regular, 10; Physio-Medical, 1; Not reported, 1.

Carroll County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Angell, Chas	Pittsburgh	R. D	Lyons, F.P	Carroll	R. D
ANGELL, CHAS. E	Delphi	R. D	Marron, J. L	Delphi	R. D
Armstrong, E. W	Camden	R. D	McCalister, J. W	Lockport	— 3
Armstrong, F. G	Camden	R. 10	Palmer, R. B	Lockport	— 10
Blanchard, Jas. R	Delphi	R. D	Plank, W. H	Deer Creek	R. D
Bradfield, B. D	Deer Creek	R. D	Robinson, Frank	Delphi	H. D
Bullard, W. F	Cutler	— 10	Shultz, F. A	Delphi	E. D
Brown, N	Flora	— 3	Shultz, J. J	Delphi	E. D
Cochran, Isaac N	Radnor	R. D	Smith, W	Delphi	R. D
Cromer, J. R	Flora	E. D	Sharer, W. F	Delphi	R. D
Camp, Chas	Camden	E. D	Stewart, J. W	Rockfield	R. D
Chittick, Chas	Burlington	R. D	Scholl, C. E	Camden	R. D
Cook, A. J	Flora	E. D	Souders, C. L	Burrows	R. D
Doane, Geo. M	Burlington	R. 10	Trobaugh, W. A	Cutler	R. D
Greer, Joshua G	Patton	P. M. 10	Tidrick, R. R	Bringhurst	R. D
Hall, John D	Camden	R. D	Walker, E	Delphi	E. E
Kennard, J. L	Yeoman	R. D	Wirt, J. H	Flora	E. 10
Kelsey	Cutler	R. D	Wilson, R. I	Lockport	R. 10
Loop, W. M	Deer Creek	R. D	Wright, John A	Burlington	E. D

Regular, 24; Eclectic, 8; Homœopathic, 1; Physio-Medical, 1; Not reported, 4.

Cass County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Allen, J. H	Logansport	H. D	Laudry, S. F	Logansport	R. 10
Baldwin, Thornburg	Galveston	R. 10	La Rose, Noah J	Altoner	E. D
Ballard, J. W	Logansport	R. D	Lester, Henry C	Logansport	E. D
Banta, Henry J.	Logansport	R. D	Lybrook, Wm. E	Young America	R. D
Beall, John S	Galveston	E. 10	Lynas, J. B	Logansport	E. 10
Blew, Peter M	Royal Center	R. D	Million, David	Royal Center	E. D
Bell, Wm. H	Logansport	R. D	Morris, James M	Twelve Mile	E. 10
BUSJAHN, F. A	Logansport	R. D	Neff, J. N	Walton	R. D
Cady, Nelson W	Logansport	R. D	Parks, Charles D	Young America	E. D
Chord, A. M	Logansport	E. D	Parish, Harrison	Montez	E. 10
Clevinger, B. C	Logansport	R. 10	Powell, J. T	Logansport	R. D
Coleman, A	Logansport	R. D	Quick, L. L	New Waverly	R. D
Coleman, Warren	Logansport	R. D	Quick, R. H	New Waverly	R. D
Downey, Jasper A	Logansport	E. D	Rolshausen, Eleanor	Logansport	R. D
Dutchess, Charles P	Walton	R. D	Shultz, John B	Logansport	E. D
Eckert, Daniel H.	Nebo	E. D	Shultz, John H.	Logansport	E. D
Fausler, D. N.	Royal Center	R. D	Simmon, Lewis A	Crittendon	R. 3
Fitch, Graham N.	Logansport	R. D	Smith, J. S	Lincoln	E. D
Fouts, David N.	Royal Center	E. 10	Sterrett, Jos. E	Logansport	R. D
Graves, Arthur E	Galveston	R. D	Stewart, Barnett	Onward	R. D
Holland, Joseph	Logansport	R. D	Stevens, Benjamin C.	Logansport	R. D
Hattery, Hiram	Logansport	R. D	Talbott, J. H	Logansport	R. D
Herrmann, John	Logansport	R. D	Talbott, J. W	Logansport	R. D
Herrmann, Arthur J	Logansport	R. D	Taylor, Joseph L	Logansport	E. D
Jordan, M. A	Logansport	E. D	Thomas, C. L	Logansport	R. D
Justice, James M.	Logansport	R. D	Wills, John B	Lincoln	R. D

Regular, 34; Eclectic, 17; Homeopathic, 1.

Clark County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Adair, Samuel D	New Washing'n	R. D	McClure, David	Jeffersonville	R. D
Allhands, David S	New Washing'n	E. 3	McClure, Clarence	Jeffersonville	R. D
Beckwith, Lod. W	Jeffersonville	R. D	McClure, Sydney C.	Jeffersonville	R. D
Bruner, Jacob	Utica	R. 10	McGlenn, Wm. P.	Otisco	R. D
Coombs, David H.	Charlestown	R. D	Nickels, J. M.	Sellersburg	R. D
Carr, Francis M	Oregon	R. 10	PEYTON, DAVID C.	Jeffersonville	R. D
Duerson, Wm. T	Bethlehem	R. 3	Reynolds, J. M	Memphis	R. D
Elrod, E. L	Henryville	R. D	Russell, James R	Nabbs	R. D
Fouts, W. D	Jeffersonville	R. D	Ruddell, I. N.	Jeffersonville	R. D
Fouts, W. K	Jeffersonville	R. D	Stalker, B. F	New Providen'e	R. D
Ferguson, H. H.	Henryville	R. D	Sheets, W. H	Jeffersonville	R. D
Field, Davis L	Jeffersonville	R. D	Secoy, S. A	Jeffersonville	H. D
Field, B. F	Jeffersonville	R. D	Taggart, S. C	Charlestown	R. D
Haymaker, Geo. W.	Charlestown	R. D	Taggart, John F	Owen	R. D
Hauss, Q. R.	Sellersburg	E. D	Veasey, T. Reed	Charlestown	R. D
Hazzard, S. D.	Cementville	R. D	Wells, F. M.	Sellersburg	R. D
Hancock, C. F. C	Jeffersonville	R. D	Work, W. F.	Charlestown	E. D
Hening, P	Jeffersonville	R. D	Watkins, E. M	Jeffersonville	R. D
Jones, Cad	Charlestown	R. D	Williams, L. L	Utica	R. D
Loomis, John.	Jeffersonville	H. 10	Zerner, Joseph	Jeffersonville	R. D
McCoy, W. N	Jeffersonville	R. D			

Regular, 36; Eclectic, 3; Homeopathic, 2.

Clay County.

Name.	*Post Office.*	*School.*	
Allen, Hiram P.	Bowling Green	R.	3
Bartholomew, N. B.	Poland	R.	10
Brown, Willis B	Clay City	R.	10
Byers, Leonard S.	Staunton	R.	3
Brock, Leonidas G	Carbon	R.	D
Brouillette, Sam'l L	Clay City	R.	D
Burns, S. P	Clay City	R.	D
Black, Silas D	Brazil	R.	D
Briley, Absalom	Coffee	R.	10
Black, Robert C	Cory	R.	D
Culbertson, R. H	Brazil	R.	D
Chamberlain, Wm. F.	Poland	R.	3
Cushman, Dan'l W.	Cloverland	R.	D
Carney, John W	Staunton	R.	10
Elliott, Thomas A	Poland	R.	D
Finley, Geo. W	Harmony	R.	D
Freed, Martin A	Clay City	R.	D
GLASGO, THOS. A	Brazil	R.	D
Gifford, J. C	Brazil	R.	D
Gants, Richard	Clay City	R.	10
Green, Thomas C.	Saline City	R.	10
Hawkins, Wm. B.	Brazil	R.	D
Holms, B. F	Asherville	R.	D
Hale, Levi	Clay City	R.	10
James, Oliver J	Cory	R.	D
Leachman, John M.	Ashboro	R.	10
Moss, James K	Ashboro	R.	D
Morton, W. C. P	Cardonia	R.	10
Modisett, James A	Cory	R.	D
McCullough, F. M	Staunton	R.	10
Nall, Albert	Hoosierville	R.	3
Pell, Geo. M	Carbon	R.	D
Price, James M.	Brazil	R.	10
Smith, Jacob F	Brazil	R.	D
Stone, W. R.	Poland	R.	10
Siddens, James O.	Harmony	R.	10
Swinehart, Moses H	Ashboro	P.-M.	10
Spelbring, Benj. F	Saline City	E.	3
Siner, F. M	Harmony	R.	D
Rundall, A. E	Center Point	R.	D
Richards, Sam'l D	Bowling Green	R.	10
Richardson, Sam'l C	Brazil	R.	D
Tulley, A. F	Brazil	R.	D
Thornton, Felix G	Knightsville	R.	3
Talbott, Edward P	Bowling Green	R.	10
Vansandt, Wm. H	Carbon	R.	D
Wolf, Clay H	Clay City	R.	D
Williams, John.	Bowling Green	R.	10
Willigman, C. H	Howsville	R.	10
Witty, Benj. W. F	Perth	R.	10
Zook, David A	Clay City	R.	D

Regular, 49; Eclectic, 1; Physio-Medical, 1.

Clinton County.

Name.	*Post Office.*	*School.*	
Abston, Jesse M	Michigantown	R.	D
Adams, James M. C	Frankfort	R.	D
Anthony, Emanuel	Frankfort	R.	D
Andrew, Given D	Frankfort	H.	D
Brown, George W	Frankfort	R.	D
Bogan, Elisha W	Kirklin	R.	D
Bowers, Valentine	Michigantown	R.	D
Bonham, J	Edna Mills	H.	D
Burns, Samuel C	Frankfort	R.	D
Balcon, Lafayette	Frankfort	R.	D
Coon, Hiram J	Colfax	R.	D
Canfield, Moses S	Frankfort	E.	D
Cripe, Daniel E	Frankfort	E.	D
Cooper, William E	Hillisburg	P.-M	
Cooper, Wilson	Frankfort	R.	D
Cox, T. B	Frankfort	R.	D
Coble, Albert H	Frankfort	R.	D
Douglass, Isaac W	Michigantown	R.	D
Douglass, Samuel	Frankfort	R.	10
Davis, Newton C	Frankfort	H.	D
Earhart, Isaac S	Mulberry	R.	D
Fisher, Samuel B	Rossville	E.	10
Fisher, John J	Rossville	E.	D
Fall, William D	Kirklin	R.	10
Gard, Oliver	Frankfort	R.	D
Gossett, Lucy Miss	Frankfort	E.	D
George, Samuel F	Pickard's Mill	E.	D
Hornaday, Wm. H	Forest	R.	D
Holmes, Theodore F	Pickard's Mill	R.	10
Holmes, Horatie D	Scircleville	R.	10
Huntzinger, Eli	Frankfort	R.	D
Iles, Stephen	Frankfort	—	10
Knapp, S. C	Frankfort	R.	D
Koons, Monroe T	Mulberry	R.	D
Loftin, John	Frankfort	R.	D
Lovett, Charles H	Kirklin	E.	D
Lyons, James H	Forest	R.	D
Milburn, Robert C	Colfax	R.	D
Milburn, Joseph E	Colfax	—	10
Morrison, Owen A. J	Middle Fork	R.	D
Martin, M. L	Forest	R.	10
McMurray, James S	Frankfort	R.	D
McMurray, Allen	Frankfort	R.	D
McNutt, James S	Jefferson	—	10
Palmer, R. F	Frankfort	R.	D
Parker, Joseph	Colfax	R.	D
Randall, Wm. B	Hillisburg	R.	D
Sims, Stephen B	Frankfort	R.	D
Schwinn, Evan E	Kirklin	R.	D
SAYLER, A. J	Frankfort	E.	D
Smith, W. G	Scircleville	R.	3
Seawright, W. P	Frankfort	R.	D
Strange, William	Frankfort	R.	10
Shaw, James E	Rossville	R.	D
Sharp, Levi	Boyleston	R.	3
Vale, Hiram W	Colfax	R.	D
Walker, David R	Celfax	R.	D
Wise, James B	Frankfort	H.	D
Young, Martin V	Middle Fork	R.	D
Yankey, Wm. P	Rossville	R.	D
Youndt, Albert W	Mulberry	R.	D

Regular, 43; Homeopathic, 4; Eclectic, 8; Not Reported, 5.

Crawford County.

Name.	*Post Office.*	*School.*
Bird, William C	English	R. 10
Baylor, Geo. W.	Milltown	R. D
Bullington, W. H.	West Fork	R. 10
Brown, Sylvester L.	Eckerty	R. 10
Byrn, Spencer	Marengo	R. D
Bobbitt, Jno. H.	Eckerty	R. 10
Brown, Jno. F	Mifflin	R. 10
Cole, William A	English	R. D
Gibbs, Jno. H	Milltown	R. R
Gobbel, Frederick R	Grantsburgh	R. 3
Holland, William	Milltown	R. 10
Hammond, Jno. M	English	R. D
Hammond, H. C	English	R. D
Hazlewood, Jno	Eckerty	R. D
Hallcraft, Wm. R	Alton	R. 10
Hawn, Jno. A	Leavenworth	R. D
Knight, Jno. B	Mt. Prospect	R. 10
King, Newton W	Taswell	R. 3
Kelso, Jno. S B	Leavenworth	R. D
Luckett, Chas. D	Eckerty	R. D
Merrilus, Wm. M	Leavenworth	H. 10
McCartney, Jos. C	West Fork	R. D
SETSER, HENRY H.	Leavenworth	R. D
Stewart, Lewis B	Marengo	H. 10
Stewart, Oscar H	Marengo	H. D
Walls, Jno. W	Eckerty	R. 3
Weathers, Jno. F.	Marengo	R. D

Regular, 24; Homeopathic, 3.

Daviess County.

Name.	*Post Office.*	*School.*
Anderson, Wm. B	Washington	R. D
Ashcraft, J. C	Montgomery	R. D
Bigham, A. W	Montgomery	R. D
Bigham, O. A	Cannelburgh	R. D
Bonham, A. N	Washington	H. D
Clark, J. W	Glendale	R. D
Carter, D. R	Epsom	R. 10
Culmer, S.	Epsom	R. 10
Dearmire, John	Odon	R. D
Eads, T. L	Washington	R. 3
Faith A. H.	Plainville	R. D
Fitzgibbon, John	Washington	R. D
Gers, Henry	Washington	R. D
Harrell, W. A.	Washington	E. 10
Harned, F. M	Washington	R. D
Hedrick, Wm	Alfordsville	H. D
Hobbs, W. P	Raglesville	R. 10
Killion, J. N	Cornetsville	P. M. 10
Lane, A. R	Odon	R. 10
Moore, J. L	Washington	R. D
Millis, E. D	Plainville	R. 10
McCown, C. C	Washington	R. D
McKittrick, O. H	Plainville	R. 10
Marlow, J. W	Raglesville	R. D
McPherson, S. L	Montgomery	R. D
Parks, J. F	Cumback	R. D
Peck, S. W	Washington	R. D
Ragsdale, M. H	Glendale	R. 10
Scudder, Chas	Washington	R. D
Scudder, C. P	Washington	R. D
Scudder, J. A	Washington	R. D
Smith, D. J	Odon	R. D
Sears, Barton	Odon	R. 10
Scanlon, M	Washington	R. D
Sears, T. M	Elnora	R. D
Scott, J. E	Elnora	R. D
STROUSE, W. H. H	Washington	H. 10
Tallerer, M. P	Elnora	R. 10
Willeford, G. W	Washington	R. D
Wolfe, H	Washington	R. D
Walls, W. B	Alfordsville	R. 10
Winton, C. F	Washington	R. D

Regular, 37; Homeopathic, 3; Eclectic, 1; Physio-Medical, 1.

Dearborn County.

Name.	*Post Office.*	*School.*
Barkley, Marshall J	Farmers Retreat	R. D
Barkley, Wm. H	Farmers Retreat	R. D
Bond, Edwin P.	Lawrenceburg	R. 10
Bond, Marc. L	Aurora	R. D
Bond, R. C	Aurora	R. D
Bowers, A. J	Moore's Hill	R. D
Carey, Chas. H	Chesterville	R. 3
Chamberlain, S. B	Lawrenceburg	R. 10
Collins, S. H	Lawrenceburg	R. D
Corya, Philip W	Moore's Hill	E. D
CRAIG, T. E	Lawrenceburg	R. 10
Daughters, A. P	Moore's Hill	R. 10
Fermier, Pierre,	Weisburg	R. 10
Gatch, J. D	Lawrenceburg	R. D
Hayward, M. P	Lawrenceburg	H. D
Heaton, Conley	Aurora	R. D
Henry, W. C	Aurora	R. D
House, J. W	Kyle	R. D
Kyle, T. M	Aurora	R. D
Lamb, James	Aurora	R. D
Lazency, J. R.	Bright	R. 3
Liddle, J. R.	Bright	R. D
Lord, Thos. J.	Dillsboro	E. D
Miller, C. B.	Lawrenreburg	R. D
Ratcliff, J. T	Alsace	R. 3
Rectanus, Fred.	Aurora	R. D
Sale, J. H.	Dillsboro.	R. D
Sale, F. H.	Dillsboro.	R. D
Smith, Edwin	Aurora	H. D
Spaulding, John	Hartford	R. D
Sutton, H. H	Aurora	R. D
Swales, W. H., Sr.	Logan	R. D
Swales, W. H., Jr.	Logan	R. D
Vincent, H. C.	Guilford	R. D
Walter, Carl G	Lawrenceburg	R. 10
Weaver, S. M	Dillsboro.	E. D

Regular, 32; Homeopathic, 2: Eclectic, 2.

Decatur County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Alexander, J. H	Clifty	R. D	Hause, Wm.	Westport	E. D
Bracken, Wm.	Greensburgh	R. 10	Johnson, Thomas	Greensburgh	R. 10
Real, C. M	Clarksburgh	R. D	Maguire, Sam'l.	Greensburgh	H. D
Bunker, L. E	Greensburgh	E. D	Miller, T. E. F	Westport	H. 10
Ballard, D. J	St. Paul	R. D	Parker, J. W	Adams	R. 10
Burroughs, J. P	Westport	R. 10	Pennington, Eli	Pennington	R. D
Bidenger, S. W	Waynesburgh	R. 10	Riley, J. H	Sardinia	R. D
Butler, W. G	Clifty	H. D	Riley, Wm. F.	Sardinia	R. D
Bailey, A. L	St. Paul	R. D	Remy, A. S	Decatur Co	R. D
Bracken, J. B.	Greensburgh	R. 10	Riley, S. H	Greensburgh	E. D
Clark, Geo. E	Waynesburgh	R. D	Smith, John L	Clarksburgh	R. D
Crawford, Geo. S	Clifty.	R. D	SCOBY, D. L	Greensburgh	R. D
Cain, Cornelius.	Clarksburgh	R. —	Schofield, J. W	Harris City	R. D
Clark, T. J	Letts' Corner.	E. D	Surm, E. B	Greensburgh	R. 10
Covert, C. C.	Greensburgh	R. D	Tevis, J. T	St. Paul	R. 10
Daily, F. M	Millhousen.	R. 10	Tobias, J. M	Greensburgh	E. D
DePew, R. J	St. Paul.	R. D	Veat, M. C	Forrest Hill	R. 3
Falconberg, M. G	Greensburgh	E. 10	Wright, S. V	Greensburgh	R. D
Godfrey, L. W	Forrest Hill	R. 3	Webb, W. H	Decatur Co	R. 10
Goff, Wesley	Decatur Co	R. 10	Woods, J. M	Decatur Co	R. D
Hitt, J. Y	Greensburgh	R. D	Williams, M. H.	Decatur Co	R. D
Hitt, L. B	Greensburgh	R. D	Wray, H. B	Decatur Co	E. D
Howard, J. W.	St. Paul.	R. 3			

Regular, 34; Homeopathic, 4; Eclectic, 7.

Dekalb County.

Allen, Wm. S.	Auburn	R. 10	Hull, Henry H	Newville	R. 10
Adams, Jacob B	Butler	R. D	Hull, Jacob	Spencerville	E. D
Bennett, Joseph B	Butler	E. D	Hughes, Jas. W.	Waterloo	R. 10
Barnett, Jas. S	Butler	E. D	Kenestrick, Jas. D.	Butler	R. D
Bevier, William	Waterloo	E. D	Kester, Alonzo D	Garrett	H. D
Bolan, Milton J.	Butler	R. 10	Lewis, Jas. V.	Auburn	R. D
Brunson, Vincent C.	Newville	R. D	Leasure, Lida P., Mrs.	Auburn	R. D
BOWMAN, H. W.	St. Joe	R. D	Matheny, Timothy J.	Auburn	R. D
Broughton, Frank	Waterloo	R. D	Mercer, Wm. M.	Corunna	R. D
Carpenter, Wm. P	Butler	R. D	Nusbaum, W. H	Auburn	R. D
Chamberlain, Jas. N.	Waterloo	R. D	Rudolph, Oswald F.	Fairfield Center	R. D
Casebeer, Jacob B.	Auburn	R. D	Raub, Ephraim D.	Auburn	R. 10
Cassel, B. G.	Corunna	R. 10	Swartz, D. J.	Auburn	R. D
Carpenter, Thos. J	Butler	R. D	Sebring, D. A.	Auburn	R. D
Darby, A. B.	Waterloo	E. D	Snyder, G.	Corunna	R. D
Emanuel, Garry E	Spencerville	R. D	Sargent, Theo. C	Garrett	R. D
Emanuel, Jonas	Spencerville	R. 10	Sheffer, Barton S	St. Joe	R. D
Fanning, Fred W.	Butler	R. D	Thompson, Jno. G	Garrett	R. D
Farnington, A. S.	Waterloo	E. 10	Wood, Fred B.	Garrett	R. D
Ford, J. H.	Auburn	R. 10	Watson, B. G	Auburn	R. D
Greenwald, Marquis	Auburn	R. 10	Waller, Wm. H.	Auburn	R. D

Regular, 36; Eclectic, 6; Homeopathic, 1.

Delaware County.

Ames, George F	Eaton	R. D	James, Milton	Muncie	R. D
Armitage, David R.	Muncie	R. D	Julian, James F	New Corner	E. D
Bowles, Thomas J	Muncie	R. D	Jackson, Frank G	Muncie	R. 3
BRADBURY, A. B	Muncie	R. D	Kemper, G. W. H	Muncie	R. D
Bayden, Wilbur J	Muncie	R. D	Kyte, David V	Muncie	P. M. D
Bunch, Robert A	DeSoto	E. D	Lefavor, Joseph L	Albany	R. 3
Baird, John V	Albany	E. 3	Martin, John S.	Muncie	H. D
Bell, John N	New Burlington	R. D	Mitchell, Harvey	Muncie	R. 10
Cottrell, Daniel W	Muncie	R. 10	Murray, Alfred L	Eaton.	R. 10
Comstock, John S. D	Cowan	R. 10	Murray, Albert P.	Albany	R. D
Clemens, Wm. D	New Corner.	E. 10	Marshall, Ruben	Cowan	R. D
Cornelius, Wm. W	Daleville	E. 10	Marsh, Henry M	Muncie	H. D
Downing, Jonathan R	Yorktown.	R. D	Munsey, David O.	New Corner	R. D
Driscoll, Wm. E	Muncie	R. D	McCrelles, Chas. C	Muncie	R. 3
Eastus, Wm. T	Summitsville	R. D	Miller, Elizabeth	Muncie	H. D
Good, Alonzo H	Selma	R. 10	Phimey, Arthur J	Muncie	H. D
Green, Geo. R	Muncie	R. 10	Pucket, Elijah J	Muncie	R. D
Hayden, John H	Stout.	P. M. D	Payton, Lewis	Muncie	P. M. D
Hastings, Seth G	Muncie	H. D	Rutledge, Elijah	New Burlington	E. 3
Harris, Jesse M	Muncie	R. 10	Ricks, Martin W	Muncie	P. M. D

Delaware County—Continued.

Name.	*Post Office.*	*School.*	
Ross, John C	Muncie	E.	3
Reasoner, Osmer J	Shidler	R.	D
Ragens, Wm. R	Shidler	R.	10
Shields, Edgar A	Muncie	R.	D
Spurgeon, Wm. A	Muncie	P. M.	D
Shaub, Daniel	Muncie	N. R.	D
Snell, Solomon R	Muncie	E.	10
Smith, Charles W	Selma	R.	D
Shively, David M	Yorktown	P. M.	D
Shidler, Jasper L. K	Muncie	E.	10
Summers, Henry C	Daleville	R.	10
Schriver, Elizabeth	Muncie	N. R.	10
Trobridge, David L	Muncie	E.	10
Tuttle, John R	Wheeling	R.	3
Winans, Henry M	Muncie	R.	D

Regular, 32; Eclectic, 10; Physio-Medical, 6; Homeopathic, 5; Not Reported, 2.

Dubois County.

Beeler, Elmer E	Huntington	E.	D
Clifford, Joseph	Holland	E.	D
Cobble, Frederick	Birdseye	R.	D
Cole, John A	Haysville	R.	D
DeBruler, O. E	Ireland	R.	D
Gleazen, E. E	Ireland	R.	10
Hunter, Walter	Portersville	R.	D
Harmani, W. H	Schnellville	H.	10
Harmani, John S	Kyana	E.	D
Isham, John H	Birdseye	R.	D
Johnson, John R	Celestine	E.	D
Knapp, Victor	Ferdinand	R.	D
Kempf, James E	Jasper	R.	D
Line, William	Hillham	R.	10
Lukenmeyer, E. G	Huntingburg	R.	D
Montgomery, Geo. B	Huntingburg	R.	D
McMahon, Wm. R	Huntingburg	R.	D
Parr, Geo. L	Ireland	R.	D
Rust, John F	Holland		10
Rust, Frederick W	Holland	R.	D
Stork, Henry W	Holland	R.	D
Schwartz, Chas. W	Huntingburg	R.	D
SALB, JOHN P	Jasper	R.	D
Schreafer, John	St. Anthony	R.	3
Stephenson, Edward	Jasper	R.	10
Williams, G. P	Huntingburg	R.	10
Wertz, Toliver	Jasper	R.	D
Walker, Geo. W	Ellsworth		10

Regular, 22; Eclectic, 4; Homeopathic, 1; Not Reported, 2.

Elkhart County.

Aitkin, F. M	Bristol	R.	D
Aldrich, Chas. J	Middlebury	R.	D
Baker, D. W	Benton	R.	10
Baumgertner, C. C	Elkhart	N. R.	10
Beaty, Marshall	Elkhart	R.	D
Benham, F. A	Elkhart	H.	D
Beyerle, Henry J	Goshen	R.	D
Bower, Chas. C	Bristol	R.	D
Bowman, Wm. E	Elkhart	R.	D
Bowser, John M	Nappanee	R.	D
Cassel, Elizabeth	Elkhart	R.	D
Clark Stephen T	Elkhart	R.	D
Day, Luella	Goshen	R.	D
Dreese, Chas. L	Goshen	R.	D
Duff, Vincent E	Middlebury	R.	D
Defrees, Henry J	Wakarusa	R.	D
Eckleman, F. C	Elkhart	R.	D
Eisenbliss, Samuel	New Paris	R.	10
Fisher, Albert S	Elkhart	H.	D
Fisher, Martin L	Elkhart	P.-M.	D
Frink, C. S	Elkhart	R.	D
Funk, Sophia M	Elkhart	H.	D
Greiner, Geo. G	Vistula	R.	3
Harden, Samuel A	Waterford	R.	3
Haggerty, R. Q	Elkhart	R.	D
Hani, Wm. F	Middlebury	R.	D
Harding, P. D	Goshen	R.	D
Harrington, O. H	Elkhart	R.	D
Hatch, O. W	Elkhart	N. R.	3
HEATWOLE, JOS. H	Goshen	R.	D
Hendryx, T. C	Elkhart	R.	D
Herring, Frederick	Goshen	E.	10
Horton, Alice	Elkhart	E.	D
Inks, John S	Nappanee	R.	D
Irwin, A. J	Goshen	R.	D
Jackson, A. C	Goshen	R.	10
Jennings, J. W	Millersburg	R.	D
Johnson, W. W	Goshen	R.	D
Keisewetter, P. Hugo	Goshen	R.	D
Keene, Daniel P	Goshen	R.	D
Kauffman, Anna L	Goshen	E.	10
Knepple, Wm. H	Wakarusa	R.	3
Krider, M. K	Goshen	H.	D
Krider, W. B	Goshen	H.	D
Kyler, W. B	Benton	R.	10
Lambert, C. A	Goshen	R.	D
Lockwood, Reuben L	Wakarusa	R.	D
Latta, M. M	Goshen	R.	D
Larimer, Bartlett	Millersburg	R.	D
Lichty, Samuel E	Wakarusa	R.	D
Martin, S. E	Vistula	E.	10
Mathews, James	New Paris	R.	D
Miles, F. L	Elkhart	R.	D
Montgomery, Thos	Elkhart	R.	10
Muman, H. A	Elkhart	H.	D
Myers, J. W	Middlebury	E.	D
Neal, W. A	Elkhart	R.	3
Niman, Chas. H	Elkhart	R.	D
Peck, M. Eva	Goshen	R.	
Pixley, C. S	Elkhart	R.	D
Putt, F. L	Middlebury	R.	D
Richards, I. S	Waterford	N. R.	10
Rogers, Solomon	Millersburg	R.	10
Sensenich, Aaron	Wakarusa	R.	D
Short, Isaac W	Elkhart	R.	D
Sparklin, C. C	Goshen	R.	10
Spohn, Geo. W	Elkhart	R.	D
Stauffer, H. R	Nappanee	R.	D
Sweetland, Frank	Elkhart	R.	D
Thomas, W. H	Elkhart	H.	D
Turner, Porter	Elkhart	H.	3
Wert, P. L	Waterford	N. R.	10
Wickham, W. W	Goshen	E.	D
Whippy, W. A	Goshen	H.	D
Whitmer, B. F	Goshen	R.	D
Work, J. A	Elkhart	R.	D
Vincent, O. J	Elkhart	R.	D

Regular, 55; Homeopathic, 9; Physio-Medical, 1; Eclectic, 6; Not Reported, 6.

Fayette County.

Name.	*Post Office.*	*School.*
Chitwood, Geo. R	Connersville	R. D
Chitwood, Joshua	Connersville	R. D
Chitwood, John E	Connersville	R. D
Chitwood, Frank	Connersville	R. 10
Derbyshire, Ephraim	Bentonville	R. D
Dillman, L. D	Connersville	R. D
GREGG, V. H	Connersville	R. 10
Hamilton, S. N	Connersville	R. D
Larimore, J. D	Connersville	R. D
Phares, O. P	Alquina	R. D
Pepper, W. J	Connersville	R. D
Shepard, L. D.	Everton	R. 10
Sipe, R. W	Orange	R. D
Smalley, John G	Connersville	R. D
Tingley, W. B	Harrisburg	R. 10
Turner, John	Null's Mills	E. 10
Tyrrell, A. D	Connersville	E. 10
Vance, S. W	Connersville	R. D
Wall, John	Connersville	R. 10
Webster, Elias	Connersville	H. D
Wyman, Charles	Connersville	R. D

Regular, 18; Homeopathic, 1; Eclectic, 2.

Floyd County.

Alexander, S. J.	New Albany	R. D
Bowman, Chas	New Albany	R. D
Benst, Max	New Albany	R. D
Benst, Bernard	New Albany	R. 10
Burney, W. A	New Albany	R. D
Brigham, R. S	New Albany	H. D
Brockington, Chas. N.	New Albany	H. D
Clapp, W. A	New Albany	R. D
Cannon, Geo. H	New Albany	R. D
Cook, Chas. P	New Albany	R. D
Cole, John A	Georgetown	R. D
Davis, James M	Greenville	R. D
Davis, Chas. P	Galena	R. D
Erni, G. O	New Albany	H. D
EASLEY, E. P	New Albany	R. D
Gresham, G. W	New Albany	R. D
Hause, A. P	New Albany	E. D
Jones, Jas. H	New Albany	R. 10
Knoefel, August	New Albany	R. 10
Kay, Robert	Greenville	R. D
Levi, L. D	Georgetown	R. D
Lemon, John H.	New Albany	R. 10
Lung, H. B	New Albany	R. D
McIntyre, C. W., Sr	New Albany	R. D
McIntyre, C. W., Jr	New Albany	R. D
Neat, Thos. C	New Albany	R. 10
Needham, H. J	New Albany	H. D
Payne, John N	New Albany	R. D
Rutherford, R. S	Galena	R. D
Sloan, John	New Albany	R. D
Stewart, John L	New Albany	R. D
Sinex, Wm. G	New Albany	R. D
Starr, W. L	New Albany	R. D
Sigmon, Edwin L	New Albany	R. D
Severinghaus, J. F	New Albany	R. 10
Taggart, W. J	Galena	R. D
Wilcox, S. C	New Albany	R. D
Wolte, H. S	New Albany	R. D
Williams, Wm. R.	Greenville	R. D

Regular, 34; Homeopathic, 4; Eclectic, 1.

Fountain County.

Armstrong, L. P	Newtown	R. D
Aydelott, Thos. B	Newtown	R. D
Burlington, J. C	Attica	E. D
Cole, Wm. C	Attica	R. D
Coggins, C. M	Coal Creek	R. D
Case, Marion T	Attica	R. D
Dowden, J. W	Lodi	E. 10
Downing, Samuel	Yeddo	R. D
Fine, E. M	Steam Corner	R. D
Finney, Chas. J	Attica	R. D
Gorden, Goldsmith	Veedersburg	E. 10
Hays, Geo. C	Hillsboro	R. D
Holmes, Wm. B	Lodi	R. 10
Jones, G. S	Covington	R. D
Livingood, J. R.	Wallace	R. D
MOCK, J. W	Covington	R. D
McNeil, Scott	Stone Bluff	R. 3
Moore, P. B	Harveysburgh	R. 10
Mendenhall, E. W	Harveysburgh	R. 10
Orrahood, Jacob	Coal Creek	R. D
Pettit, Marshall	Veedersburg	R. D
Quinn, J. W	Portland	R. 10
Rowland, Geo	Covington	R. D
Riffle, Jno. S	Veedersburg	R. D
Richardson, A. G	Veedersburg	R. D
Rice, Jno. T	Attica	R. D
Rupert, A. M	Attica	R. D
Rogers, J. B	Covington	R. D
Stout, Wm. R	Hillsboro	R. D
Shotts, Henry	Wallace	R. D
Sparks, Joseph T	Yeddo	R. 10
Shoaf, Francis A	Veedersburg	R. D
Spinning, J. N	Covington	R. 10
Talbot, Jesse N	Wallace	R. D
Vandervalgen, W. M.	Newton	R. D
Washborn, A. A	Attica	R. D
Whitehall, Alex. L	Attica	R. D
Whitehall, Samuel	Attica	E. D
Young, B. F	Veedersburg	R. D

Regular, 35; Eclectic, 4.

Franklin County.

Name.	*Post Office.*	*School.*
Averdick, H. G.	Oldenburgh	R. D
Anness, W. R.	Bath	R. 3
Berry, Geo., Sr	Brookville	R. 10
Berry, W	Brookville	R. D
Burtonshaw, T. J.	Drewersburgh	R. 10
BUCKINGHAM, G. B	Brookville	R. D
Best, N. L.	Mt. Carmel	E. D
Cupp, M. F	Metamora	R. D
Conner, I. H	Metamora	R. 10
Davis, W. H	Mt. Carmel	R. 10
Ford, Thos. J	Laurel	R. D
Gifford, S. A	Laurel	R. D
Gregory, Henry, Jr.	Laurel	R. 10
Linegar, D. B	Whitcomb	E. 3
Lindner, H	Brookville	E. D
Mann, E. B.	Oldenburgh	R. D
Morgan, J. O	Springfield	R. D
McGuire, N. M	Metamora	R. 10
McElwee, Harry	Bath	R. D
Owens, R. J	Cedar Grove	R. D
Patterson, E. L.	Fairfield	R. D
Quick, J. H.	Brookville	R. 10
Squires, Geo. E,	Brookville	E. D
Squires, E. A	Fairfield	E. 10
Shum, Chas.	St. Peters.	R. 10
Simmons, E	Blooming Grove	R. 10
Starr, P. J	Blooming Grove	R. 10
Stoddard, S. P	Brookville	E. D
Timmelmann, Erust.	Huntersville	N. R.

Regular, 22; Eclectic, 6; Not Reported, 1.

Fulton County.

Name.	*Post Office.*	*School.*
Bailey, A. L	Akron	E. 10
Brown, Angus	Rochester	H. 3
Calvin, G. M	Kewanna	E. 3
Campbell, C. W.	Blue Grass	R. 3
Caple, A. Z	Akron	R. D
Cleland, W. T.	Kewanna	R. 10
Clymer, N. J	Bloomingsburg	E. D
DAWSON, BYRON F	Kewanna	R. D
Doke, J. T	Tiosa	R. 3
Fish, S. R.	Bloomingsburg	E. 10
Gould, Charles E.	Rochester	R. D
Gould, Vernon	Rochester	R. D
Harter, C. F	Akron	R. D
Hector, C	Rochester	E. D
Hill, William	Rochester	E. D
Howell, J. Q	Kewanna	E. 10
Johnston, A	Akron	R. 3
Loring, C. J	Rochester	R. D
Metzler, J. B	Rochester	N. R. 10
Morris, J. M	Fulton	R. 10
Overmyer, B. F.	Leiter's Ford	R. 3
Peffley, W. F	Fulton	R. 3
Rannells, J. N	Rochester	E. D
Rhodes, E. E	Rochester	R. 3
Robbins, A. H	Rochester	R. D
Rogers, L.	Kewanna	E. D
Scott, W. D	Rochester	H. D
Shafer, W. S	Rochester	E. 3
Shields, A. M.	Rochester	R. D
Spohn, J. C	Rochester	R. D
Thompson, A. R	Kewanna	N. R. 10
Waite, O P.	Rochester	R. D
Wilson, W. L	Tiosa	R. D

Regular, 19; Eclectic, 10; Homeopathic, 2; Not Reported, 2.

Gibson County.

Name.	*Post Office.*	*School.*
Burton, A. R	Princeton	R. D
Burton, Hiram	Sommerville	R. 10
Ballard, John	Haubstadt	R. D
Blair, W. W.	Princeton	R. D
Blair, Franklin	Princeton	R. D
Basinger, T. M	Oatsville	R. 3
Brown, T. M	Oakland City	R. 10
Benson, R. A.	Buckskin	R. D
Curtner, P H.	Hazleton	R. D
Clark, John I.	Owensville	R. 3
Duncan, W. B.	Patoka	R. 3
Fisher, G. C.	Patoka	R. D
French, W. W.	Ft. Branch	R. D
Gudgel, J. F	Hazleton	R. D
Genung, W. R	Ft. Branch	R. D
Hudson, O. L	Princeton	H. 10
Hopkins, W. A	Ft. Branch	R. D
Ireland, J. M	Francisco	R. D
Kidd, W. G.	Princeton	R. D
Kendle, G. C	Princeton	R. D
Leister, W. L.	Oakland City	E. 3
Littlepage, Geo.	Haubstadt	R. D
Mason, G. C.	Oakland City	R. D
Mexam, F. H	Princeton	R. D
Montgomery, T. J	Owensville	R. D
Marchand, Victor	Haubstadt	R. D
Minford, S. E.	Princeton	R. D
Malone, J. A	Princeton	R. 10
Moore, Rob't	Sommerville	R. D
McGowan, J. W	Oakland City	R. D
McGowan, W. J	Oakland City	R. D
Nelson, Frank	Hazleton	R. 3
Ottman, Peter	Haubstadt	R. D
Patten, J. C.	Francisco	R. D
Powell, D. G	Princeton	R. D
Runcie, J. W	Ft. Branch	R. D
Runcie, G. W.	Ft. Branch	R. D
Reavis, D. P	Francisco	R. 3
Richie, L. B.	Buckskin	R. 3
Strickland, Geo.	Francisco	R. D
Stott, John	Princeton	R. D
Shoemaker, D. M.	Owensville	R. 10
Shelton, J. W.	Summerville	R. 10
SHOPTAUGH, S. H	Princeton	R. D
Stewart, W. H. H.	Oakland City	R. D
Stewart, A. L.	Summerville	R. D
Williams, J. M	Owensville	R. D
West, V. T	Princeton	R. 10
Woodruff, A. C	Oakland City	R. D

Regular, 47; Homeopathic, 1.

Grant County.

Name.	*Post Office.*	*School.*	
Ayers, Stephen D	Marion	R.	D
Adkins, John C	Marion	R.	D
Ardery, Oscar	New Cumberl'd	R.	D
Barnes, R. A	Marion	P.-M.	D
Barnes, Elnor	Marion	P.-M.	D
Brinker, W	Marion	E.	D
Conover, J. V	Jalapa	E.	D
Coldron, Wm. R	Marion	P.-M.	D
Cory, Lavander	Van Buren	R.	D
Cory, Lewis J	Van Buren	R.	D
Cory, Chas. W	Van Buren	R.	D
Conwell, L. V	Van Buren	R.	D
Daniels, G. W	Pt. Isabel	R.	D
Davis, Samuel H	Sweetser	E.	D
Eberle, Peter	Marion	N. R.	3
Flynn, Wm	Marion	R.	D
FORREST, J. H	Marion	E.	D
Fallis, Amos L	Fairmount	P.-M.	D
Holliday, Thomas		N. R.	—
Haines, Howard C		P.-M.	D
Hollis, Samuel	Upland	R.	D
Henley, A	Fairmount	R.	D
Hanmore, John	Landesville	R.	D
Haines, N. P	Herbst	R.	3
Hubbard, W. H	Marion	R.	D
Hamilton, Asa A	Marion	R.	D
Horne, Samuel.	Jonesboro	R.	D
Hough, W. H	Marion	P.-M.	D
Howe, Lawrence	Jonesboro	P.-M.	D
Harden, Samuel A	Marion	P.-M.	D
Harden, Mrs. C. O	Marion	P.-M.	D
Innis, Robt. E		N. R.	3
Jones, Enoch P	Marion	E.	D
Jones, Chas. R	Marion	P.-M.	D
Jones, Chas. A	Jonesboro	E.	D
Jackson, Logan M	Marion	R.	10
Knight. John C	Jonesboro	R.	D
Kimball, T. C	Marion	R.	10
Kersey, James B	Weaver	P.-M.	D
Kelsey, J. S		R.	3
Kimball, A. D	Marion	R.	D
Ludlum, B. F	Marion	R.	D
Langston, Edgar	Pt. Isabel	N. R.	10
Lomax, Wm	Marion	R.	D
Lennox, Frank	Swayzee	R.	D
Lawshe, J. T	Swayzee	R.	D
Lytle, John B	Marion	R.	D
Lord, J. Levi	Marion	R.	D
Marlow, Austin T	Fairmont	E.	D
Munsey, J. S		R.	D
Moon, Allen	Fairmont	P.-M.	3
Meek, John A	Jonesboro	R.	10
Morris, Geo. P	Jadden	P.-M.	D
McKinney, Geo. W	Jonesboro	E.	10
Mock, J	Marion	N. R.	10
Moore, Chas. V	Fairmount	R.	3
McTurman, M. J	Independence	N. R.	10
Mauring, N. H	Rigdon	R.	10
Moore, Stephen W	Marion	E.	D
McKinsey, Wm. M	Marion	—	10
Pucket, T. J	Arcania	P.-M.	10
Powell, Elmer N	Normal	R.	D
Rigdon, Pryor	Independence	R.	D
Ross, Justin	Marion	R.	D
Shively, James S	Marion	R.	D
Shively, Marshall T	Marion	R.	D
Snodgrass, D. B	Marion	P.-M.	D
Stout, O. L	Upland	R.	D
Stevens, A. B	Marion	P.-M.	D
Seal, Isaac N	Hackleman	R.	10
Small, N, W	Jonesboro	E.	D
Snodgrass, Mrs. Mary	Marion	P.-M.	D
Snodgrass, Sam'l J	Marion	P.-M.	D
Snodgrass, Benj. D	Marion	P.-M.	D
Smith, I. M	Marion	P.-M.	D
Stewart, Jos. S	Marion	R.	D
Thomas, Wm. B	Fairmount	R.	D
Thomas, Rosa	Marion	P.-M.	D
Votaw, Mrs. R. A	Marion	P.-M.	D
Williams, Lewis	Marion	R.	D
Whitson, Eli M	Jonesboro	E.	D
Williamson, Peter E	Sweetser	R.	D
Whorton, Wm. L	New Cumberl'd	R.	D
Wall, M. M	Marion	H.	D
Ward, Jas. B	Marion	R.	D
Ware, C. M	Swayzee	R.	D
Webster, E. C	Marion	E.	D

Regular, 46; Eclectic, 11; Homeopathic, 1; Physio-Medical, 22; Not Reported, 8.

Greene County.

Acton, Wm. G	Worthington	E.	10
Arnold, Joseph G	Lyons.	R.	D
Asbury, W. H. H	Jasonville	R.	D
Ayedelotte, Thos	Wright	R.	3
Burge, Nicholas C	Park	R.	10
Burke, Wm. H	Scotland	R.	D
Bridewell, Lafayette	Owensburgh	R.	10
Cook, Peter M	Salsbury	R.	D
Clary, H. T	Worthington	E.	D
Cravens, Samuel C	Bloomfield	R.	D
Cravens, E. R.	Marco	R.	D
Diliey, Leroy H.	Linton	E.	3
Durment, Chas. R	Newberry	R.	D
Edwards, Chas. N	Lyons.	R.	D
Ellis, Ira	Linton	R.	D
Gray, John W	Bloomfield	R.	D
Gray, Geo. B	Worthington	R.	D
Gray, Simeon.	Worthington	R.	10
HARRAL, JOHN M	Switz City	R.	D
Hannan, John W.	Scotland	R.	D
Herold, Henry	Owensburgh	E.	10
Hilburn, E. W	Newberry.	R.	D
Jackson, E. J.	Linton	R.	3
Kutch, John	Bloomfield	R.	D
Lowden, H. R	Bloomfield	R.	D
Laughlin, C. E	Owensburgh	R.	D
Mullinix, L. P	Worthington	E.	D
McIntosh, Jacob P	Newark	E.	3
Mullane, Joseph	Lyons	R.	D
McCabe, Henry H	Worthington	E.	D
McKissick, Oliver P	Lyons.	R.	10
Marshall, Alfred T	Jasonville	R.	3
Minnick, Jas. A	Worthington	R.	D
Newman, Wm. R.	Switz City	P. M.	10
O'Neall, Wm. A	Newberry	R.	10
Rankin, Thos. B	Bloomfield	R.	D
Rose, B. A	Linton	R.	D
Roberts, Edward S	Bloomfield	R.	10
Roberts, Edward J	Bloomfield	R.	10
Squire, Wm. B	Worthington	E.	D
Sherwood, Elmer T.	Linton	R.	D
Selfridge. Wm. R.	Worthington	R.	D
Sims, J. A.	Newberry.	R.	D
Stone, J. A. M	Switz City	R.	10
Talbot, Jas. E	Marco	R.	D
Taylor, Jno. S T	Bloomfield	R.	10
Williams, Noah W	Owensburgh	R.	10
Wheeler, Thos	Newark.	E.	D
Yenne, Chas. H.	Owensburgh	R.	D
Young, W. L	Newberry.	E.	D

Regular, 38; Eclectic, 10; Physio-Medical, 1.

Hamilton County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Aldred, J. A	Hortonville	R. D	LOEHR, E. C.	Noblesville	R. D
Booth, A. D	Noblesville	R. D	Lyle, A. W. T	Alisonville	R. D
Benson, J. L	Noblesville	R. D	Lamb, Enoch.	Fortsville	R. D
Byers, J. S	Noblesville	P. M. D	Murphy, Jas. M	Arcadia.	R. D
Baker, J. J	Westfield	P. M. D	Miasse, A	Noblesville	E. D
Cook, C. W	Carmel	P. M. D	Martin, John H. B	Atlanta	R. D
Coffin, B. F	Westfield	P. M. 10	Milliken, H. W	Sheridan	P. M. D
Crans, J. T	New Britton	R. D	Miller, H. D	Eagletown	N. R. 3
Cropper, Eva	Sheridan	R. D	McMurtry, T. J	Boxleytown	R. D
Davenport, I. W	Sheridan	R. D	McShane, J. T	Carmel	R. D
Davenport, H. E	Sheridan	R. D	McFetridge, L. C	Atlanta	R. D
Dove, S. C	Westfield	R. D	Mendenhall, Chas. W	Carmel	R. D
Driver, J. C	Atlanta	R. D	Newby, J. C	Boxleytown	R. D
Fancher, John W	Sheridan	R. D	Pettijohn, J. B	Westfield	R. D
Fodrea, Zeri H	Westfield	R. D	Pettifohn, O. B	Deming	R. D
Graham, W. B	Noblesville	R. D	Parr, J. N	Jolietville	R. D
Griffin, R. J	Deming	R. 3	Roads, Anna	Atlanta	R. 10
Houser, J. A	Arcadia	P. M. D	Smith, H. B	Olio	R. D
Haworth, M. C	Noblesville	R. D	Smith, T. J.	Strawtown	R. D
Hobson, J. F	Noblesville	E. D	Startsman, ——	Arcadia	R. D
Herr, H. L	Westfield	R. D	Tucker, A. R	Cicero	R. D
Harrold, N. G	Noblesville	R. D	White, T. A	Noblesville	R. D
Heath, J. P	Fisher's Station	R. D	Whitesell, P. P	Clarksville	R. D
Hershey, K. C	Carmel	R. D	Warford, F. M	Cicero.	R. D
Kitchell, J. S	Noblesville	H. 10	Wilson, Wm. L	Baker's Corner	E. D

Regular, 38; Eclectic, 3; Homeopathic, 1; Physio-Medical, 7; Not Reported, 1.

Hancock County.

Adams, M. M	Greenfield	R. D	Judkins, E. J	Greenfield	R. D
Andrews, J. O.	Westland	R. 10	Julian, J. P	Wilkerson	P. M. D
BOOTS, S. S	Greenfield	E. D	Justice, W. A	Eden	R. D
Buchel, J.	Sugar Creek	— 10	Justice, Jno. M	Maxwell	R. D
Bruner, C. K	Greenfield	R. D	King, W. R	Philadelphia	R. 10
Bruner, M. L	Greenfield	R. D	Kirkoff, C. H	Sugar Creek	R. D
Cory, J. D	McCordsville	R. 3	Larimore, J. M	Carrollton	R. D
Cox, W. B	Charlottsville	E. 10	Martin, S. M	Greenfield	R. D
Cook, B. M	Wilkerson	R. D	Mitchell, W. P	Charlottsville.	R. D
Collins, O. A	Mohawk	R. D	Price, J	Greenfield	— D
Daily, G. W	Charlottsville	E. D	Ryan, W. B	Willow Branch.	R. 3
Ely, J. M	Sugar Creek	R. D	Stuart, A. A	Fortville	R. 3
Ely, L. C	Sugar Creek	R. D	Stuart, J. G	Fortville	R. D
Howard, N. P., Sr	Greenfield	R. D	Saunders, T. K	Fortville	R. 10
Howard, N. P., Jr	Greenfield	R. D	Selman, J. W	Greenfield	R. D
Hamma, N. L	Wilkerson	P. M. D	Trees, W	Warrington	R. 10
Hervey, F. T	Fortville	R. D	Troy, S. A	Milliner's Cor	R. D
Hanna, R. D	Warrington	R. D	Wright, I. E	Charlettsville	E. D
Hervey, T. P	Fortville	R. 10	Yancey, S. T	Fortville	R. D

Regular, 30; Eclectic, 4; Physio-Medical, 2; Not Reported, 2.

Harrison County.

Anderson, J. W.	Moberly	R. D	Jones, A. M.	Corydon	R. D
Bennett, James H	New Amsterd'm	R. D	Kandie, Wm. A	Laconia	R. 10
Baxter, John C	Valley City.	R. D	Lawson, Jno. E.	Corydon	R. D
Boston, Chas, H	Bradford	P.-M. D	Lafollette, Wm. P	Motts' Station	R. D
Clarke, Jacob.	Corydon	R. D	Mitchem, Littleton.	Crisp Cross R'ds	R. 10
Deen, H. D	Central	R. D	Martin, G. F	Corydon	R. D
Denbo, Wm. R	Mauckport	R. 10	Neely, I. L	Corydon	R. D
Davis, Wm. H	New Middlet'n.	R. D	Patterson, R. W	Elizabeth.	R. 10
DANIEL, WM	Corydon	R. D	Siegler, R. R	Ramsey.	R. D
Daniel, John	Crandall	R. D	Smith, A. E. L	Corydon	R. D
Ellis, Joseph	Bradford	R. 10	Smith, S. A	Corydon	R. D
Funkhouser, Wm. H	Valley City.	R. D	Smith, A. E.	Corydon	R. D
Funk, Z. T	Corydon	R. D	Reade., Wm. H.	New Amsterd'm	R. D
Finley, John F	Palmyra	R. 10	Wolfe, Samuel C	Elizabeth.	R. D
Forbis, B. F	Laconia	R. D	Wolfe, Z. C	Lanesville	R. D
Fouts, David C	Salisbury.	R. 10	Wolfe, L. O. P	Mauckport	R. D
Fouts, Henry C.	Lanesville	R. D	Winders, L. P	Elizabeth.	R. 10
Horner, Jacob D	Lanesville	R. 10	Wolpert, W. I	Elizabeth.	R. D
Hopper, I. J	DePauw	P.-M. D	Zenor, J. W.	New Middlet'n.	R. 10

Regular, 36; Physio-Medical, 2.

Hendricks County.

Name.	*Post Office.*	*School.*
Adams, Thos. J.	North Salem	R. D
Allen, John Q	Plainfield	R. D
Bartholomew, B	Danville	R. D
Barker, Joel T	Danville	R. D
Brill, J. H.	Pittsboro	R. D
Broadhurst, John	North Salem	E. 10
Brent, Newton	Pittsboro	R. D
Brazier, Thomas T	Pecksburg	R. 3
Brooks, M. W.	Hazlewood	R. D
Burk, Tighlman T	Lizton	R. 3
Carter, Amos	Plainfield	R. D
Cloud, C. F. C	Pittsboro	R. 10
Dryden, Thomas F	Clayton	R. D
Davidson, A. M.	Brownsburg	R. D
Evans, Thomas.	Plainfield	R. D
Farabee, C. E	Danville	R. D
French, John S	Pittsboro	R. D
Green, J. N	Stilesville	R. D
Grimes, Wm. T.	Coatesville	R. 3
Graham, Thomas A	Brownsburg	R. D
Gilbert, A. K	Clayton	R. D
Goar, Charles S.	North Salem	R. D
Hunt, Tighlman	Coatesville	R. D
Huron, F. H	Danville	H. D
House, Geo. F. H.	Clayton	R. D
Hoadley, W. J	Danville	R. D
Heavenridge, Allen	Stilesville	R. D

Name.	*Post Office.*	*School.*
Hamlin, Samuel R	Cartersburg	R. D
Johnson, T. W	Danville	R. D
Johnson, O. B	Lizton	R. D
Jessup, Maria Allen	Friendwood	R. D
Kennedy, Leroy H	Danville	R. D
Lawson, Wilson T	Danville	R. D
Marsh, John L	Brownsburg	E. D
Masters, N. G.	Stilesville	R. D
Morgan, Abraham	Cartersburg	E. D
Martin, Simeon.	North Salem	R. D
McKitrick, Albert	Brownsburg	R. D
Osborn, John A	New Winchester	R. D
O'Dwyer, Mary A. M.	Brownsburg	E. D
Parker, M. G	Danville	R. D
Procter, James M	North Salem	R. D
Robbins, William	North Salem	R. D
Ragan, John S	Avon	R. D
Reagan, Jesse	Plainfield	R. D
Summers, H. C	Amo	R. D
Strong, J. T	Plainfield	R. D
Strong, A. M	Belleville	R. D
Sanders, Louis A	Lizton	R. D
Todd, H. G	Danville	R. D
Towles, Alfred N	Danville	R. D
WHITE, CHAS. A	Danville	R. D
White, Wm. H	Amo	R. D

Regular, 48; Eclectic, 4; Homeopathic, 1.

Henry County.

Anderson, John T	Honey Creek	R. 3
Burke, George W.	New Castle	R. D
Boor, William F	New Castle	R. D
Boor, Walter Axline.	New Castle	R. D
Barrett, Omar H	Knightstown	R. D
Bond, Caleb W	Cadiz	R. 10
Bartlett, A. C.	Cadiz	R. D
Bartlett, Claude G	Dunreith	R. D
Bailey, George D.	Spiceland	R. D
Bailey, Rachel S	Spiceland	R. D
Bartlett, Wm. M	Lewisville	R. 10
Benedict, Hanford	Springport	R. 3
Baldwin, Lawrence	Knightstown	H. D
Crouse, Henry M	Knightstown	R. D
Clapper, David	Mooreland	H. D
Cochran, James	Spiceland	R. D
Coffin, Oliver S	Lewisville	E. D
Eskew, William C	Kennard	R. D
Estabrook, L. W	Springport	R. D
Ferris, Samuel	New Castle	R. 10
Ferris, Edgar S.	New Castle	R. D
Gibbs, Chas. U	New Lisbon	R. 10
Green, A W.	Knightstown	R. D
Gronendyke, Thos. W.	New Castle	R. 3
Gronendyke, O. J.	Spiceland	R. D
Garrett, Obed H.	Cadiz	R. D
Griffis, Robert	Middletown	R. D
Guyer, Oscar K.	Lewisville	R. D
Hall, Milton	Middletown	H. 10
Hess, Frank	New Castle	R. D
Hobbs, Wilson	Knightstown	R. D
Holloway, O. E.	Knightstown	R. D
Holloway, Lizzie E.	Spiceland	H. D
Hollinger, I. N.	Blountsville	R. 3
Hardesty, J. C.	Millville	R. D
Kissel, Wm.	New Castle	R. 10
Johnson, E. M	Greensboro	R. D
Leavens, A. Dewolf	Middletown	P. M. D

Mendenhall, Elihu T.	New Castle	R. D
McGavern, W. B	Knightstown	R. D
Mitchell, Walter P	Kennard	N. R. D
McKillip, James H.	Snyder	R. 10
McShirley, James L	Mooreland	R. D
Norveil, R. D.	Mt. Summit	E. D
Newby, Zimri	Greensborough.	R. 10
Olden, Wilson C.	Kennard	R. 10
Pickering, Samuel	New Lisbon	R. D
Pendleton, C. B.	Mech'csb'gh.	P. M. D
Post, Burton O	Sulphur Springs	R. D
Painter, Berry	Middletown	N. R. —
Rawlins, F. J. C	Elizabeth City	R. D
Rawlins, John W.	Elizabeth City	R. 3
Rea, John	New Castle	R. D
Rea, Chas. L	Rogersville	R. D
Rodgers, S. G.	Mooreland	E. D
Rodecap, Geo. W.	Middletown	H. D
Smith, Nelson G	Lewisville	E. D
Stafford, Daniel	New Castle	P. M. D
Stafford, J. A.	Millville	P. M. D
Stafford, Horace	Straughn	P. M. D
Smith, R. A.	Greensboro	P. M. D
Smith, Mary J	Greensboro	P. M. 10
Stone, Frank L.	Mechanicsb'g	P. M. D
Stanley, Jesse C.	Knightstown	R. D
THOMPSON, JNO. F.	New Castle	H. D
Thornburgh, F. L.	Middletown	R. D
Weaver, John	Knightstown	R. 10
Wayman, John C.	New Castle	P. M. D
Williams, Geo. H.	New Castle	P. M. D
Weeks, Joseph	Mechanicsb'g	P. M. D
Weeks, Elizabeth J	Mechanicsb'g	P. M. D
Welsh, J. H.	Middletown	R. D
Waters, S. C.	Middletown	R. D
Winston, L. V	Knightstown	R. D
Williams, John B.	Honey Creek.	P. M. D
Yauckey, David H	Blountsville	R. 3

Regular, 51; Eclectic, 4; Homeopathic, 5; Physio-Medical, 13; Not Reported, 2.

Howard County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Armstrong, E. A	Kokomo	R. D	Miller, H. C	Ridgeway	R. D
Bates, Aaron	Kokomo	R. D	Moulder, T. M	Russiaville	R. D
Berst, J. H	Kokomo	R. D	Murray, S. T	Greentown	R. 10
Bagwell, Lewis A	Jerome	R. D	Moore, Jno. B	Kokomo	R. D
Beisecker, Jno. W	W. Middleton	E. D	McClurg, Wm. H	Kokomo	R. D
Blount, Cyrus N	Kokomo	R. D	Newlin, Sylvester	New London	E. D
Byers, J. J	Hemlock	R. 10	Oiler, Levi H	Russiaville	R. 10
Covalt, Amos A	Greentown	R. D	Puckett, Jno. L	Kokomo	R. D
Conner, Levi	Jerome	E. 3	Payton, W. B	Greentown	R. D
Cooper, Wm	Kokomo	E. D	Payne, A. T.	Russiaville	R. D
Creason, Silas P	Shanghai	R. D	Rice, E. C.	Oakford	E. D
Freeman, Alex. C	Kokomo	R. 10	Ross, Jno. A	Kokomo	R. D
Garr, Jas. O	Kokomo	R. D	Smith, Richard M	Kokomo	R. D
Gifford, T V	Kokomo	— 10	Scott, Wm	Kokomo	R. D
Hull, W. H	Center	R. D	Scott, Gideon D	Greentown	R. D
Haines, H. C	Sycamore	P.-M. D	Sawyer, E. W	Kokomo	H. D
Hulburt, David	Kokomo	— 3	Shirley, D. J	New London	R. 10
Kern, Theo	Kokomo	R. D	THORNE, J. C. T	Kokomo	R. D
Kern, Lewis	Kokomo	R. D	Tresslar, J. G.	Kokomo	E. D
Kirkpatrick, Jas. B	Kokomo	R. D	Wright, J. W	Kokomo	R. D
Kemp, Geo. W	Russiaville	R. 3	Walthall, Jno. G	Sycamore	R. D
Johnson, Isaac C	Kokomo	R. D	Wilson, R. Q	Kokomo	R. D
Lovett, Jno. A	Kokomo	R. 10	Ware, C. W	W. Liberty	R. D
Moulder, J. McL	Kokomo	R. D	Wooley, C. A	Kappa	R. 10
Miller, A. W	Plevna	E. D	Waltman, Wm	Kokomo	E. D

Regular, 38; Eclectic, 8; Physio-Medical, 1; Homeopathic, 1; not reported, 3.

Huntington County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Brandon, W. S	Andrews	R. D	Leyman, Daniel S	Huntington	R. D
Brelsford, Jas. W.	River	R. D	Mitchell, Sam'l P	Mt. Etna	R. D
Bonifield, W. D.	Warren.	R. D	Mackey, James L.	Warren.	H. D
Burns, A. M	Bippis	R. D	McLin, Geo. W.	Huntington	H. D
Beaver, H. M.	Huntington	R. D	Palmer, Elbridge W	Warren.	R. D
Crandel, Thomas	Majenica	E. D	Smith, Isaac A	Warren.	R. D
Carson, Wm. F	Roanoke	R. D	Shaffer, A. H	Huntington	R. D
Chafee, Wm. C	Huntington	R. D	Scott, Joseph	Markle	R. 10
Chenowith, Geo. F	Mt. Etna	R. D	Scott, N. W.	Huntington	R. D
Fry, Chas W	Bracken	R. D	Severance, Lagrange.	Huntington	R. D
Fisher, Erastus S.	Brown's Corners	R. D	Searles, J. D	Huntington.	R. 10
Good, Chas. H	Warren.	R. D	Sprowl, John S	Warren.	R. D
Grayston, F. S. C	Huntington	R. D	Williams, O. B	Andrews	R. 10
Grayston, B H. B	Huntington	R. D	Williams, Wm. H	Harlansburgh	R. 10
Grayston, Chas. E	Huntington	R. D	Wallace, Leroy S.	Hoboken	R. D
Gemmill Henry C	Markle	R. D	WRIGHT, ERVIN.	Huntington	R. D
Kemp, Jos. W	Roanoke	R. 3	Wright, Chas. L	Huntington	R. D
Kilander, Wm. J	Markle	R. 10	Wilkinson, Wm. W.	Andrews.	P. M. D
Kuntz, Sylvanus	Roanoke	R. D	Wall, Francis M	Warren.	R. D
Lyons, Ira E.	Huntington	R. D	Yingling, Daniel	Huntington	R. D
Lyons, Wm. B	Huntington	R. D	Young, Edward L	PleasantPlain	N. R. 10
Leyman, Emery H	Huntington	R. D			

Regulars, 37; Eclectic, 2; Homeopathic, 2; Physio-Medical, 1; Not reported, 1.

Jackson County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Anthony, James R	Brownstown	R. D	McCormick, L. R	Crothersville	R. D
Barnes, Geo. O	Cortland	R. D	Newkirk, A. L	Seymour	R. 10
Bard, T. S	Crothersville	R. 10	Orvis, George Q	Seymour	R. D
Cummings, David J	Houston	R. D	Osterman, A. G	Seymour	R. D
Cummings, Hiram A	Mooney	R. 3	Rains, George W	Cortland	R. 3
Charlton, Samuel H	Seymour	R. 10	Ruddick, Lindley	Seymour	R. D
Charles, Jasper N	Tampico	R. D	Richards, Thomas J	Mooney	R. 10
Casey, W. M	Seymour	R. D	Reed, E. P	Ewing	R. 10
Coryell, Samuel	Crothersville	R. D	Shipman, N. N	Seymour	R. D
Chute, George	Freetown	R. 10	Shields, J. T	Seymour	R. 10
Converse, Elmer A	Tampico	E. D	SHIELDS, JAS. M	Seymour	R. D
Ewing, Francis M	Vallonia	R. 10	Stillwell, Joseph A	Brownstown	R. 10
Gerrish, Millard F	Seymour	R. D	Shoemaker, Evan	Jaketown	N. R. 10
Gibson, G. W	Houston	R. 10	Patrick, Charles E	Seymour	R. D
Green, W. O	Dudleytown	R. 10	Paxson, J. C	Medora	R. D
Graessle, Geo. G	Seymour	R. D	Tinch, E. T	Ewing	R. D
Hunter, Chas. A	Reddington	P. M. D	Veasey, A. M	Medora	R. D
Kyte, Henry R	Cortland	P. M. D	Whitehead, W. E	Brownstown	R. D
Monroe, V. H	Seymour	R. 10	Wells, James C	Mooney	R. D
Manuel, Grafton	Freetown	R. 10	Warner, W. H	Crothersville	R. D
May, Albert	Crothersville	R. D	Wilson, M. V	Medora	R. 10
McMillan, J. P	Medora	R. 10			

Regular, 39; Eclectic, 1; Physio-Medical, 2; not reported, 1.

Jasper County.

Name.	*Post Office.*	*School.*	
Agnew, Thos. J	San Pierre	R.	D
Alter, M. B	Rensselaer	R.	3
Bowman, Wm	Demotte	R.	10
BITTERS, F. P	Rensselaer	R.	D
Denning, J. C	Rensselaer	R.	10
Hartsell, W. W	Rensselaer	H.	D
Jackson, M. E	Rensselaer	P. M.	D
Jones, H. G	Rensselaer	R.	D
Kidd, W. J	Medaryville	E.	D
Landon, H	Remington	R.	D
Loughridge, J. H	Rensselaer	R.	D
Mervy, J. W	Mt. Ayr	R.	D
Patton, D. H	Rensselaer	R.	D
Robbins, J. B	Demotte	H.	10
Reigle, M. W	Remington	R.	D
Sharer, J. C	Francisville	R.	D
Stockwell, W	Wheatfield	R.	10
Washburn, I. B	Rensselaer	R.	D

Regular, 14; Eclectic, 1; Homeopathic, 2; Physio-Medical, 1.

Jay County.

Anderson, James M	Dunkirk	R.	10
Arthur, C. S	Portland	R.	3
Brown, H. V	Portland	R.	D
Bosworth, J. M.	Pennville.	R.	D
Blackledge, L. N	Pennville	E.	D
Blackledge, Am'nda J	Pennville	E.	D
Brayton, Wm. R	New Corydon.	R.	D
Clevenger, Benj. F	Redkey	R.	D
Connor, Norris F	Redkey	E.	D
Crouch, Nathaniel W.	Dunkirk	N. R.	10
Dickes, Philip	Boundary	R.	D
Dickes, John T.	Portland	R.	D
Davis, R. P	Portland	R.	D
France, John W	Dunkirk	R.	D
Fertich, George W	Dunkirk	R.	D
Glentzer, M. A.	Briant.	N. R.	10
Gillum, S. A. D.	Briant	R.	3
Guy, Samuel D.	Briant.	N. R.	10
Hutchens, Henry C.	Portland	E.	10
Hamilton, R. A.	Portland	E.	10
Hall, John W.	Portland	R.	D
Horn, Wm. C	Pennville.	R.	D
Hutchison, James A	Salamonia	R.	D
Kidder, J. F	New Mt. Pleas't	R.	10
Kinsey, David S	Portland	R.	3
MACKEY, CHAS W	Portland	D.	3
Milligan, A. A	Portland	P.-M.	D
Morehouse, John A	Portland	P.-M.	D
Moore, Ezra W	Portland	E.	D
Mincks, F. W.	Portland	H.	3
Miles, Jacob T	Briant	R.	D
Munsey, Samuel E	New Mt. Pleas't	R.	10
Mason, Samuel.	Pennville.	R.	D
Neal, William	Portland	R.	D
Poling, S. K	Portland	E.	D
Ross, John G	Westchester	E.	D
Rarick, Isaac N	Bluff Point	P.-M.	D
Ralston, Agustus.	New Corydon.	R.	D
Sims, I. G.	Portland	R.	D
Smith, Wm	Portland	N. R.	10
Shepherd, Thos. S	Portland	R.	10
Shepherd, Geo. W	Redkey	R.	10
Sage, Ira T	Redkey	N. R.	10
Stiers, Francis R	Redkey	E.	D
Skinner, David T.	Salamonia	E.	D
Stick, Jesse.	Briant	E.	D
Stanton, David S	Briant	R.	10
Selvey, S. S.	Dunkirk	R.	D
Saunders, C. B	Pennville	P.-M.	D
Thomas, S. A	Pennville	N. R.	10
Vail, Isaac M.	Westchester	E.	D
White, T. C	Powers	N. R.	10
Wicks, James	Briant.	N. R.	10
Wrennick, Geo. T	Portland	R.	10

Regular, 29; Eclectic, 12; Homeopathic, 1; Physio-Medical, 4; not reported, 8.

Jefferson County.

Brengle, J. S	Hanover	R.	10
Burdsel, Chas. A	Lancaster	R.	3
Blair, E. B	Bryantsburg	R.	D
Cooperider, J.	Madison	R.	D
Christie, J. H.	Canaan.	R.	D
Cogley, T. J	Madison	R.	D
Cornett, Wm. J. S	Madison	R.	D
Chastine, H. W	Big Creek	R.	D
Dixon, Z. C	Deputy	R.	3
Davis, J. T	Madison	R.	D
Davidson, Wm. R	Madison	R.	D
Forshee, T. W	Madison	R.	D
Ford, S. M	Madison	R.	D
Flanders, J. W	Dupont.	R.	D
Freeman, Wm	North Madison.	R.	D
Eads, Erastus E	Madison	E.	D
Gaddy, Orville	Madison	R.	D
Grant, Geo. H	Hanover	R.	D
Hutchinson, Jos. B.	Madison	H.	D
Hutchings, W. D	Madison	R.	D
Hewitt, Geo. W.	Madison	R.	D
Johnson, A. H	Chelsea.	R.	D
Julian, Paris	Swanville	N. R.	10
Lewis, James R	Madison	R.	D
Lewis, Geo. C.	Madison	R.	D
Lewis, J. F	Dupont.	R.	D
Lewis, S. B	Canaan.	R.	D
Lefeber, James M	Graham	R.	D
Lewis, Geo. B	Dupont.	R.	D
Lawdor, W. G	Brooksburg.	R.	D
Matthews, J. H.	Madison	R.	D
Muret, James H	Madison	R.	D
McCOY, WM. A	Madison	R.	D
McCarty, Wm. W	Canaan.	R.	D
Penn, Benj. A	Bryantsburg	E.	D
Ryher, Chas	Manville	R.	D
Reynolds, Geo. E.	Kent	R.	D
Reynolds, J. H	Wirt	R.	10
Rawling, J. V	Wirt	R.	D
Smith, Edwin M	Wirt.	N. R.	10
Sanderson, Thomas	Kent	R.	D
Townsend, S. M	Madison	R.	D
Tevis, R. M.	Brooksburg.	R.	D
Tevis, E. R.	Brooksburg.	R.	D
Wright, C. H	North Madison.	R.	D

Regular, 40; Eclectic, 2; Homeopathic, 1; Not Reported, 2.

Jennings County.

Name.	*Post Office.*	*School.*		*Name.*	*Post Office.*	*School.*	
Adams, S. D	Brewersville	R.	10	Lyle, John M	Cana	R.	D
Amick, C. C	Six Mile	R.	D	Light, A. B	North Vernon	R.	D
Case, W. W	Zenas	R.	D	Lefeber, James M	Commiskey	R.	D
Coryea, F. M	Zenas	E.	10	Mitchell, Walter J	Vernon	R.	D
Firsch, B	North Vernon,	N. R	10	Nelson, H. G	Butlerville	R.	D
Fall, W. A	North Vernon	R.	D	Nighswander, M	Six Mile	R.	D
Gaddy, N. D	Lovett	R.	D	Phillips, A. W	Scipio	R.	D
Gaddy, Orville	Paris Crossing	R.	D	Reynolds, S. H	Scipio	R.	D
GREEN, C. H	North Vernon	R.	10	Russell, Benj. F	Paris	R.	D
Green, James H	North Vernon	R.	D	Richardson, N	Vernon	R.	D
Grahn, E. G	North Vernon	H.	D	Richardson, W. H	Vernon	R.	D
Hanna, J. L	Paris Crossing	R.	D	Renny, W. H	Zenas	N. R.	3
Hicks, B. R	Nebraska	P.-M.	D	Stemm, W. H	Six Mile	R.	D
Kyle, James W	North Vernon	R.	D	Shepherd, James F	Queensville	N. R.	10
Kendrich, N. C	Butlerville	R.	10	Wildman, W. H	San Jacinto	R.	D

Regular, 24; Eclectic, 1; Homeopathic, 1; Physio-Medical, 1; Not Reported, 3.

Johnson County.

Adams, J. H	Amity	R.	10	Miller, D. H	Franklin	R.	D
Adams, David	Edinburg	E.	D	Marshall, J. A	Nineveh	R.	3
Beebe, James	Whiteland	E.	10	Maze, V. B	Needham	R.	D
Bland, John A	Edinburg	R.	D	Noble, T. B	Greenwood	R.	10
Byers, R. S	Samaria	R.	D	Ott, L. E	Franklin	R.	D
Covert, G. W	Franklin	R.	3	Payne, P. W	Franklin	R.	D
Carnes, Zachariah	Greenwood	R.	D	Payne, Carl	Franklin	R.	D
Cravens, J. R	Franklin	R.	3	Province, W. M	Providence	R.	D
Donnell, J. H	Franklin	R.	10	Paine, Luther	Edinburg	E.	D
Donnell, T. C	Franklin	R.	D	Quick, R. S	Edinburg	E.	D
Dobyns, P. K	Whiteland	R.	D	Rush, W. P	Edinburg	R.	D
Davis, A. T	Edinburg	R.	10	Ream, J. B	Franklin	R.	D
Farris, J. T	Bargersville	R.	D	Saddler, J. J	Edinburg	R.	D
Fisher, J. C	Needham	R.	D	Surface, O. B	Greenwood	R.	D
George, J. D	Franklin	H.	D	Telford, W. E	Bargersville	R.	D
Gillaspi, F. P	Stone's Crossing	R.	D	Wood, John C	Franklin	R.	D
Hall, W. C	Franklin	R.	D	Wishard, J. M	Greenwood	R.	D
Hall, H. J	Franklin	R.	D	Wallace, B	Franklin	R.	D
Hibbs, Irwin	Nineveh	R.	10	Willan, E. B	Trafalgar	R.	D
Jones, J. T	Franklin	R.	D	Willan, R. D	Trafalgar	R.	D
Kegley, John L	Stone's Crossing	R.	3	Wright, A. F	Nineveh	R.	D
Lanam, J. H	Edinburg	R.	D	WHITESIDES, L. L	Franklin	R.	D
Miller, A	Whiteland	R.	D				

Regular, 40: Eclectic, 4; Homeopathic, 1.

Knox County.

Alsop, Thomas E	Freelandville	R.	D	Kessinger, Wm. E	Sanborn	R.	D
Alexander, James F	Bruceville	R.	D	Lytton, Jefferson	Wheatland	R.	3
Boyer, Eli	Vincennes	R.	D	Martin, Zadock, G	Bruceville	R.	D
Beard, F. W	Vincennes	R.	D	McDowell, James M	Bruceville	R.	D
Beard, Schuyler C	Vincennes	R.	D	Milam, John W	Vincennes	R.	D
Busse, Edward P	Vincennes	R.	D	Medcalf, Wm. M	Vincennes	H.	D
Black, Elijah C	Wheatland	R.	3	Moore, Reuben G	Vincennes	R.	D
Bever, John C	Vincennes	P.-M.	3	Merritt, James U	Emison	R.	3
Bever, Almira C. W	Vincennes	E.	D	McGauhy, And. J	Freelandville	R.	D
Bedell, Wm. B	Vincennes	R.	D	McDowell, L. C	Freelandville	R.	D
Beckes, Lyman M	Vincennes	R.	D	Meyer, Herman N. H	Freelandville	E.	10
Cross, John F	Vincennes	R.	3	McGowan, Wm	Oaktown	R.	10
Dorsey, Geo. L	Bicknell	R.	D	Pugh, John W	Oaktown	R.	D
DuKate, John S	Monroe City	R.	D	Pearce, Abner B	Vincennes	R.	D
DuKate, John B. D	Wheatland	R.	D	Robbins, John F	Freelandville	R.	D
Davenport, Wm. H	Vincennes	R.	D	Ray, Joel W	Emison	P.-M.	10
Davis, Royse	Decker	R.	D	Reeves, Joseph L	Edwardsport	R.	D
Fairhurst, O'C. C	Vincennes	R.	D	Ricketts, Reuben R	Red Cloud	R.	10
Grigsby, Wm. B	Oaktown	R.	D	Staley, Lewellen B	Bicknell	R.	D
Harris, Francis M	Vincennes	R.	D	Smith, Hubbard M	Vincennes	R.	D
Harris, Wm. B	Vincennes	R.	D	SWARTZEL, J. A	Vincennes	R.	D
Hensley, John H	Vincennes	R.	D	Spaulding, Thos	Edwardsport	R.	D
Harrison, Sam'l L	Vincennes	R.	3	Spaulding, Geo. D	Sandborn	R.	3
Hunt, Thos. J	Monroe City	R.	D	Sparks, Nathan B	Monroe City	R.	10
Haughton, Andrew J	Oaktown	R.	D	Trueblood, J. W	Monroe City	R.	3
Jessup, Robert B	Vincennes	R.	D	Trout, Robert E	Oaktown	R.	D
Jessup, Robt. B., Jr	Vincennes	R.	D	Von Trees, Edw'd C	Monroe City	R.	D
Keith, Benj. F	Edwardsport	R.	D	Williams, Jas. T	Monroe City	E.	D

Regular, 50; Eclectic, 3; Homeopathic, 1; Physio-Medical, 2.

Kosciusko County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Amiss, James M	Silver Lake	R. D	Long, C. R	Pierceton	R. D
BECKNELL, I. J	Milford	R. D	Love, John W	Millwood	— 10
Burkett, C. W	Warsaw	R. D	Lancaster, Thos. A	Sidney	R. D
Burkett, Benj	Warsaw	R. D	Moody, T. F	Pierceton	R. D
Bash, J. M	Warsaw	R. D	Moro, Francis	Warsaw	E. D
Byler, J. M	Warsaw	H. D	Marine, John W	Etna Green	P.-M E
Boydston, B. S	Clunette	E. 10	Ogle, John J	North Webster	E. 10
Bacon, Lyman B	Packerton	R. D	Pierman. F. M	Palestine	R. D
Bowser, J. H	Syracuse	R. D	Parker, J. W	Oswego	E. 10
Chandler, Jos. A	Warsaw	R. 3	Parks, John P	Atwood	R. D
Cammack, Thos	Milford	R. D	Robinson, A. B	Mentone	R. D
Clayton, Calvin M	Warsaw	E. 10	Robinson, Sarah M	Warsaw	E. 10
Dick, M. L	Pierceton	P.-M. D	Swyhart, C. M	Warsaw	P.-M. D
Gregory. Geo. B	Warsaw	H. D	Swyhart, Anna	Warsaw	P.-M. D
Hayes, Wm	Pierceton	E. D	Smith, James S	Warsaw	P.-M. D
Heffley, John W	Mentone	E. D	Snodgrass. S. J	Burket	P.-M. D
Holloway, John N	Etna Green	E. D	Shackelford, T. J	Warsaw	R. D
Hoopingarner, G. B	Sidney	R. D	Sherbondy, Geo. W	Silver Lake	E. 3
Hazel, John B	Claypool	R. D	Stockbarger, E	Mentone	R. 3
Hoover, John S	Gravelton	— D	Swygart, Henry M	Mentone	R. D
Ihrig, Francis M	Syracuse	E. D	Schoonover, Wm. R	Oswego	R. D
Junkin, S. D	North Webster	R. 10	Terry, P. E	Silver Lake	R. 3
Johnston, E. E	Leesburg	R. D	Tenant, Lewis H	Pierceton	E. 10
Johnson, A. R	Pierceton	H. 10	Vaughn. Martin	Burket	R. 3
King, H. O	Pierceton	R. D	Wall, James J	Beaver Dam	P.-M. D
Ketchum, George	Claypool	R. D	White, R. P	Warsaw	R. D
Kelly. Wm. M	Etna Green	R. D	Webber, I. B	Warsaw	R. D
Keehn, Levi	Milford	H. 10	Wooley, Amos	Warsaw	E. D
Kiplinger, Wm.	Burket	— 10			

Regular, 30; Eclectic, 13; Homeopathic, 4; Physio-Medical, 6; Not Reported, 3.

Lagrange County.

Benham, Frank A	Lagrange	H. D	Raby, William	Woolcotville	E. 10
Broughton, F. H	Woolcotville	R. D	Rawles, J. W	Mongo	R. 10
Dayton, Geo. H	Lima	R. D	Schrock, H. W	Shore	R. D
Dancer, John	South Milford	R. D	Schrock, J. J	Emma	R. D
Dryer, Dwight W	Lagrange	R. D	Spaulding, A. M	Brushy Prairie	R. 10
Denny, John M	Haw Patch	R. 3	Short, W. H	Lagrange	R. D
Engle, J. B	Lagrange	R. 10	Short, I. L	Lagrange	R. D
Eash, Sam. M	Ligonier	R. D	Toms, Alpheus	Scott	R. D
Ferguson, W. A	Brighton	R. D	Thomas, S. A	Lagrange	E. D
Goodrich. Chas. D	Lima	R. D	Vaughn, I. J	Haw Patch	R. D
Grubb, W. B	Scott	R. 10	WADDELL, CHAS	Lagrange	R. D
Hughes, William	Lima	R. D	White, E. G	Lagrange	R. D
Heslip, J. M	Mount Pisgah	E. 10	Work, Sam'l A	Woolcotville	R. D
Newman, H. M	South Milford	R. D	Wyatt, A. R	Lagrange	P. M. D
Price, Henry B	Johnson	R. D	Younkins, Jerome W	Woolcotville	R. 10

Regular, 25; Eclectic, 3; Homeopathic, 1; Physio-Medical, 1.

Lake County.

BLISS, M. G	Crown Point	E. D	Merrill, Warren W	Hammond	E. D
Bacon, E. R	Lowell	R. D	Mackay, Richard	Deep River	E. D
Brannon, George	Crown Point	R. D	McClure, George H	Hammond	R. D
Davis. John E	Lowell	R. D	Mullen, Hugh E	Hammond	R. D
Hill, Jesse E	Creston	R. D	Miller, Hosea F. C	Hobart	R. D
Higgins, John	Crown Point	R. D	Gordon, R. P	Hobart	R. D
Iddings. Homer L	Merrillville	R. D	Gerrish, A. A	Lowell	R. D
Gibbs, James C	Crown Point	H. D	Turner, Samuel	Dyer	R. D
King, Charles W	Crown Point	E. 3	Tinseman, Louis L	Hammond	R. D
Groman, Charles	Brunswick	H. 10	Swartz, H. P	Crown Point	R. 10
Koppe, John	Crown Point	R. D	Pratt, Alonzo J	Crown Point	R. D
Pettibone, Henry	Crown Point	R. D	Seidler, Anthony	Dyer	R. 10
Pettibone. Harvey	Crown Point	R. 3	Van Dewalker, Jas. G	Hammond	E. D
Phillips, Norton J	Lowell	N. R. 10	Schroeder, Nicholas J	Hobart	R. D

Regulars, 20; Eclectic, 5; Homeopathic, 2: not reported, 1.

Laporte County.

Name.	*Post Office.*	*School.*
Annis, E. L	Laporte	R. D
Andrew, G. L	Laporte	R. D
Brown, D. T	Michigan City	R. D
Bowell, B. C	Rolling Prairie.	E. D
Crumpacker, D. S	Union Mills	R. 10
Chaffee, F	Laporte	R. D
Cole, E. Z	Michigan City	H. D
Calvert, R. H	Michigan City	R. D
Combs, Thos. W	Westville	H. D
CRANDALL, R. O	Laporte	R. 10
Darling, N. S	Laporte	R. D
Dakin, Geo. M	Laporte	E. D
Ellsworth, H. N	Kingsbury	R. D
Fisher, W. H	Wanatah	R. D
Fravel, T	Westville	R. D
Fahnestock, C. S	Laporte	H. D
Fahnestock, A. A	Laporte	H. D
Godfrey, W. R	Michigan City	R. D
Grime, H. T	Mill Creek	R. D
Hollenbeck, B. W	Westville	E. 3
Keene, L. S	Laporte	R. D
Kellogg, C. S	Otis	R. D
Lambert, J. N	Laporte	R. D
Ludwig, J	Laporte	H. D
Martin, J. S	Rolling Prairie	R. 10
Meyer, J. H. Wm	Laporte	R. D
Mullen, A. J., Jr	Michigan City	R. D
Rose, L. C	Laporte	R. D
Rogers, E. A	Laporte	R. D
Stevens, Mrs. M. A	Laporte	E. D
Tillotson, A. G	Michigan City	E. D
Warren, O. R	Otis	R. D
Whiting, S. C	Laporte	H. D
Wilson, W. B	Rolling Prairie	E. 10
Wile, Jacob	Laporte	R. D

Regular, 23; Eclectic, 6; Homeopathic, 6.

Lawrence County.

Name.	*Post Office.*	*School.*
Allen, Edward F	Fayetteville	R. 10
Burton, William A	Mitchell	R. D
Burton, George W	Mitchell	R. D
Burton, John	Georgia	R. 10
Bare, Addison W	Bryantsville	R. D
Butler, William C	Heltonville	R. 3
Berry, Alfred F	River Vale	R. 3
Donica, Thomas M	Tunnelton	R. 10
Dixon, Henry C	Tunnelton	R. D
Ellison, William T	Heltonville	R. 10
Faucett, John H	Williams	R. D
Faubion, James	Heltonville	R. D
Freeland, John T	Bedford	R. D
Gardner, Joseph	Bedford	R. D
Hunter, F. Sheldon	Fort Ritner	R. D
Hornocker, Simon D	Silverville	R. 10
Johnson, James J	Bedford	R. D
Larkin, John B	Mitchell	R. D
Lowder, Cyrus	Springville	R. 3
LAFORCE, H	Bedford	R. D
McDonald, A. J	Mitchell	R. D
McIntyre, Elihu S	Mitchell	R. D
McLaughlin, Oliver	Bartlettville	R. 10
Meadows, Jacob	Bartlettville	R. 10
Mitchell, Elijah E	Avoca	R. D
Newland, Wesley J	Bedford	R. D
Pearson, James C	Mitchell	R. D
Phipps, Madison J	Bedford	R. D
Rariden, Samuel A	Bedford	R. 10
Rariden, Charles E	Bedford	R. D
Smith, William H	Leesville	R. 10
Smith, Spencer W	Leesville	R. D
Voyles, Harvey	Fayetteville	R. D
Yost, J. L. W	Mitchell	R. D
Yandell, William	Huron	R. 10

Regulars, 35.

Madison County.

Name.	*Post Office.*	*School.*
Atherton, Romeo L	Anderson	H. D
Armfield, J. D	Elwood	R. —
Armington, Chas. L	Chesterfield	R. 3
Alexander, Lot E	Pendleton	R. D
Branch, Chas. N	Anderson	R. D
Broadbent, Oliver	Anderson	R. D
Brown, Martin	Summitville	R. D
Brickley, W. P	Anderson	P. M. 10
Brownback, O. W.	Pendleton	R. D
Chittenden, Geo. F.	Anderson	R. D
Covertson, J. W	Frankton	R. 10
Calloway, Beniah T	Elwood	R. 10
Cranfield, Martin L	Summitville	N. R. 10
Cook, Ward	Pendleton	R. D
Cullen, John C	Anderson	R. D
Cook, Daniel	Fishersburg	R. 10
Chiles, B. F.	Frankton	P. M. —
Cook, Joel	Orestes	R. 3
Diven, Chas. E	Pendleton	R. D
Davidson, J. W.	Pendleton	P. M. 10
Ebert, John D	Dundee	R. 10
Edwins, Stanley W.	Frankton	R. D
Fernandez, Daniel H.	Anderson	R. D
Fussell, Lundy B.	Markleville	R. D
French, Wm. J	Frankton	R. D
Fisher, John M.	Fishersburg	N. R. 10
Fairfield, W. A	Anderson	R. D
Fairfield, Nellie	Anderson	R. D
Garretson, Will M	Perkinsville	R. D
Guisinger, John S	Florida	R. 10
Giun, James F	Elwood	P. M. D
Hockett, Zimri	Anderson	H. D
Harter, Wm. P	Anderson	R. 3
Hunt, John W	Alexandria	R. D
Harter, Jacob H	Anderson	R. 3
Hunt, Wm. A.	Anderson	R. 3
Huston, A. S	Pendleton	P. M. D
Hilligoss, G. H	Anderson	R. 3
Hougham, John S	Perkinsville	E. 3
JONES, HORACE E.	Anderson	R. D
Jones, James M	Lapel	N. R. D
Lewis, Walter H	Pendleton	R. D
Line, L. C	Alexandria	N. R D
Moore, J. Rollen	Lapel	N. R. —
Morgan, Wm. J	Gilman	R. 10
Marlon, Austin F	Summitville	P M. D
McGrannahan, G. W	Anderson	R. D
McNutt, G. T.	Elwood	R. D

Madison County—Continued.

Name.	*Post Office.*	*School.*		*Name.*	*Post Office.*	*School.*	
Nuzum, David P	Elwood	E.	3	Riggs, ——	Linwood	N. R.	—
Perry, Andrew J	Alexandria	R.	3	Stewart, Jonas	Anderson	R.	D
Perry, John W	Alexandria	R.	D	Stuart, ——	Linwood	R.	—
Pugh, Joseph W	Alexandria	R.	D	Sigler, Daniel	Elwood	R.	D
Pugh, Joseph	Alexandria	R.	3	Swallow, Geo. E	Summitville	R.	D
Petro, Benj. L	Markleville	R.	10	Sims, Thomas S	Elwood	E.	10
Pratt, C. C	Ovid	—	—	Saunders, Joseph	Anderson	R.	D
Preston, L. F	Anderson	R.	D	Spann, B. F	Anderson	R.	D
Rogers, Ellen	Pendleton	H.	10	VanMetre, Isaac H	Florida	R.	3
Redding, ——	Anderson	P. M.	—	VanNuys, William	Anderson	R.	D
Rider, D. M	Anderson	R.	D	Wickersham, Noah	Anderson	R.	D

Regular, 50; Eclectic, 3; Homeopathic, 3; Physio-Medical, 7; Not Reported, 4.

Marion County.

Abbett, Chas. H	Indianapolis	E.	3	Campbell, Levi S	Indianapolis	R.	D
Abbett, Francis M	Indianapolis	E.	D	Cameron, J. J	Indianapolis	—	D
Abbett, Lawson	Indianapolis	E.	D	Carter, Jas	Indianapolis	—	3
Allen, Horace R	Indianapolis	R.	3	Carter, Nathan	Mapleton	R.	D
Allen, Wesley	West Newton	R.	D	Carey, Geo. A	Indianapolis	R.	D
Anderson, Jas. E	Indianapolis	R.	D	Carey, E. E	Indianapolis	R.	D
Anthony, Emanuel	Indianap'lis	P.-M.	D	Carson, L. O	Traders' Point	R.	D
Bacon, Edgar H	Indianapolis	E.	10	Case, L. B	Indianapolis	R.	3
Bailey, Wm. P	Southport	R.	D	Carwin, Jas. M	Indianapolis	—	10
Baker, A. B	Indianapolis	E.	D	Chambers, John	Indianapelis	R.	D
Ball, Addison W	Indianapolis	R.	D	Clark, Wm. H	Indianapolis	R.	10
Ballard, Joseph	Indianapolis	R.	D	Clark, Wm		R.	D
Barbour, O. P	Indianapolis	R.	D	Clarke, Wm. B	Indianapolis	H.	D
Barnes, Chas. A	Southport	R.	D	Clemmer, F. O	Indianapolis	H.	D
Barnes, Henry F	Indianapolis	R.	D	Cline, L. C	Indianapolis	R.	D
Barrett, James L	Indianapolis			Cloud, Caleb S	Indianapolis	—	10
Bates, Joseph W	Broad Ripple	R.	D	Cable, Geo. A	New Augusta	R.	D
Baughman, S. S	Indianapolis	R.	D	Coombs, Geo. W	Indianapolis	R.	D
Bamhill, J. T		R.	D	Comingore, John A	Indianapolis	R.	D
Bedford, C. T	Indianap'lis	P.-M.	D	Cook, Geo. J	Indianapolis	R.	D
Becbinger, Jno	Cumberland	R.	D	Collins, Wm. F	Cumberland	R.	10
Bell, Guido	Indianapolis	R.	D	Compton, J. A	Indianapolis	H.	D
Bennett, Peter S	Indianapolis	R.	10	Connor, W. H	Indianapolis	—	10
Bentley, W. R	Indianapolis	H.	D	Chavis, Wm		R.	D
Beck, Wm. S		R.	D	Cornaveaux, Annetta	Indianapolis	P. M.	D
Bigger, R. H	Indianapolis	R.	D	Cole, Jas. J		R.	D
Bigger, Richard T	Indianapolis	R.	D	Copeland, Wm. H		R.	D
Blair, Wm. F	Indianapolis			Cooper, Chas. A	Indianapolis	—	10
Blitz, H	Indianapolis	R.	D	Cooper, Wm. C	Indianapolis	E.	D
Bobbs, Andrew J	Indianapolis	R.	D	Cory, Andrew F	Oaklandon	E.	D
Boland, K. H	Indianapolis	R.	D	Cox, Joseph	Indianapolis	R.	D
Bowers, Jno. V	Millersville	R.	D	Cox, Stephen	Indianapolis	R.	D
Boyce, L. E		R.	D	Cress, John B	Indlanapolis	E.	D
Boyd, Jas. T	Indianapolis	H.	D	Crist, D. O	Indianapolis	R.	D
Boyd, L. E	Indianapolis	R.	D	Culver, Thos. M	Indianapolis	E.	D
Boyden, Wilber A	Indianapolis	R.	D	Cunningham, H. S	Indianapolis	R.	D
Brayton, Alembert	Indianapolis	R.	D	Curry, Thos. W	Southport	R.	D
Brennan, Edward S	Indianapolis	R.	D	Crose, S. E		R.	D
Blu, Uriah L	Indianapolis	E.	10	Daniels, E. A	Indianapolis	R.	D
Brown, Corydon	Gallaudet	H.	D	Darrach, Geo. W	Cumberland	R.	D
Brown, Geo. J	Indianapolis	R.	3	Daugherty, John H	Irvington	R.	D
Brown, Jno. R	Insane Hospital	R.	D	Davis, R. A	Indianapolis	R.	D
Brown, John S	Indianapolis	R.	3	Davis, Wm. C	Indianapolis	R.	D
Brown, Josiah L	Indianapolis	R.	D	Davidson. Thos. H		R.	D
Brown, Samuel M	Gallaudet	R.	10	Denke-Walter, F. W	Indianapolis	R.	D
Browne, Henry J	Indianapolis	R.	D	Denson, H. A	Indianapolis	R.	D
Brown, Benj. A	Brightwood	R.	D	DePuy, A. H	Indianapolis	E.	D
Browning, Wm. J	Indianapolis	R.	D	Divens, C. W	Indianapolis	E.	3
Browning, Wm. M	Indiaaapolis	R.	D	Duncan, Hiram	Indianapolis	R.	D
Bryan, Thomas A	Indianapolis	R.	D	Dunlap, John M	Indianapolis	R.	D
Bryan, David C	Indianapolis	R.	D	Dunn, Joseph R	Indianapolis	—	3
Bryant, James	Indianapolis	R.	10	Dunning, Jas. H	Indianapolis	R.	D
Byrnes, Daniel C	Indianapolis	R.	D	Earp, S. E	Indianapolis	R.	D
Bula, Rolla W	Indianapolis N.	R.	10	Eastman, Joseph	Indianapolis	R.	D
Burford, J. T	Indianapolis	R.	D	Ebberts, J. A	Indianapolis	R.	D
Butterfield, S. A	Indiapapolis	R.	D	Edenharter, G. S	Indianapolis	R.	D
Butterfield, W. W	Indianapolis	R.	D	Elbert, S. A	Indianapolis	R.	D
Cain, J. C	Haughville	R.	D	Elder, Elijah S	Indianapolis	R.	D

Marion County—Continued.

Name.	*Post Office.*	*School.*
Ellis, Wilson	Indianapolis	R. D
Ewiag, C. K	Malott Park	R. D
Eisenbeiss, E. M		R. D
Eskew, Howard T		R. D
Farber, Jas. H	Indianapolis	R. D
Farmer, Sam'l W.	Indianapolis	E. D
Ferree, Frank M	Indianapolis	R. D
Ferree, S. W	Indianapolis	R. D
Ferguson, Frank	Indianapolis	R. D
French, Mullin E	Indianapolis	R. D
Field, E. N	Cumberland	R. D
FIELD, M. H.	Indianapolis	R. D
Fisher, A. W	Indianapolis	P. M. D
Fletcher, C. I.	Indianapolis	R. D
Fletcher, W. B	Indianapolis	R. D
French, Mattie J	Indianapolis	R. D
Freitshe, John M	Indianapolis	H. 10
Frink, C. W	Indianapolis	R. D
Fuller, Wm		10
Foulston, Sam'l M		3
Galloway, Clinton	Indianapolis	R. D
Garrison, James	Indianapolis	
Garver, John J	Indianapolis	R. D
Gill, John	Indianapolis	10
Ging, Wm	Indianapolis	P. M. 3
Gooden, Wm. F		R. D
Graeter, G. A	Indianapolis	R. D
Gray, Wm	Indianapolis	R. D
Graydon, R. G	Southport	R. D
Griggs, Oscar B	Bridgeport	R. D
Goar, Chas. S		R. D
Hadley, Evan	Indianapolis	R. D
Haggart, David	Indianapolis	H. D
Hart, W. M	Indianapolis	P. M. D
Hammond, F. J	Indianapolis	R. D
Harris, James M		10
Harvey, Thos. B	Indianapolis	R. D
Harvey, Wm. D	Indianapolis	R. D
Hasty, Geo	Indianapolis	P. M. D
Haugh, John A	Indianapolis	R. D
Haynes, John R	Indianapolis	H. D
Hays, F. W	Indianapolis	R. D
Hausheer, Gustav A	Indianapolis	R. D
Heil, Chas. P	Indianapolis	E. D
Helming, H.	Indianapolis	10
Heltman, J. K	Oaklandon	R. D
Hendricks, H. W	Indianapolis	E. D
Henthorne, L. S	Indianapolis	R. D
Hervey, Edwin		R. D
Hervey, James W	Indianapolis	R. D
Hutinger, J. B	Indianapolis	D
Hinshaw, Thos	Nora	R. D
Hodges, Edward F	Indianapolis	R. D
Hopkins, A. G		R. D
Houser, James H.	Indianapolis	E. D
Hulshezer, Elmer.		R. D
Hoover, John E	Indianapolis	R. D
Hoss, Jacob V	Indianapolis	R. D
Howard, Edward	Indianapolis	E. D
Hurley, M. F	Indianapolis	E. 3
Helming, Theo		R. D
Jameson, P. H	Indianapolis	R. D
Jameson, Henry	Indianapolis	R. D
Jeffries, W. E.	Indianapolis	R. D
Jennings, Laura B		P. M. D
Jeffries, W. E.	Indianapolis	R. D
Jones, Stephen	Indianapolis	E. D
Johnson, R	Indianapolis	R. D
Johnson, W. H	Brightwood	R. D
Jordan, Jno. S	Indianapolis	E. D
Kirkhoff, C. H		R. D
Karstetter, W. B	N. Indianapolis	R. D
Kautz, Jno	N. Indianapolis	R. D
Keen, Daniel V	N. Indianapolis	——
Kendall, R. A	N. Indianapolis	——
Kennedy, Jno. Y	Acton	R. D
Kendleberger, W. H	Indianapolis	R. D
Kendrick, W. M	Indianapolis	E. D
Kerley, R. M	Indianapolis	R. D
Kelsey, R. C	Indianapolis,	P.-M. D
Kitchen, Jno. M	Indianapolis	R. D
Kidd, W. J	Indianapolis	E. D
Kiskaddin, Henry	Indianapolis	— D
Kisner, Thos. J.		E. D
Kimberlin, A. C		R. D
Kock, A. J	Indianapolis.	P.-M. D
Krumwine, J. A	Irvington	R. D
Lampton, G. W	Indianapolis	— 10
Laycock, R. T	Indianapolis	E. D
Lewis, Jas	Indianapolis	— D
Lockridge, Jno. E	Indianapolis	R. D
Long, Henry	Indianapolis	E. D
Long, Jno. B	Indianapolis	R. D
Long, R. W	Irvington.	R. D
Loper, F. M	Indianapolis	E. D
Lutz, Geo. W	Indianapolis	R. D
Manker, F. E.	Indianapolis	R. D
Mapes, Smith H	Lawrence	R. D
Martin, Francis	Indianapolis	R. D
Martin, W. F	Indianapolis	R. D
Marsee, Joseph W	Indianapolis	R. D
Maxwell, Allison	Indianapolis	R. D
Mendenhall, A. B	Indianapolis	R. D
Mendenhall, Elijah	Indianapolis	R. D
Metcalf, Chas. N	Indianapolis	R. D
Mills, Seth	Valley Mills	R. D
Miller, Edward.	Indianapolis	— 10
Minich, Jas.	Indianapolis	R. D
Millman, R. H		R. D
Metzger, Johann		P.-M. D
Moffett, E. D	Indianapolis	R. D
Moffett, N. C	Indianapolis	E. D
Monroe, Jasper	Indianapolis	R. D
Montague, E. D		R. D
Montague, Fred. A.		— 10
Moore, M. W	Indianapolis	R. D
Moore, S. H.	Indianapolis	R. D
Moore, Thos.	Indianapolis	— 3
Moore, W. G	Indianapolis	R. D
Moore, C. H		R. D
Morgan, W. V	Indianapolis	R. D
Morrison, F. A	Indianapolis	R. D
Morrow, J. E	Indianapolis	R. D
Mühl, Emil.	Indianapolis	R. D
McCabe, Henry	Indianapolis	E. D
McClure, C. B	Indianapolis	R. D
McConnell, L. C	Indianapolis	R. D
McDonald, W. B	New Augusta	R.
McFall, Rose C.		E. D
McGaughey, Sam'l	Acton	R. D
McLain, L. C	Indianapolis	R. D
McLahlan, C.D.		R. 10
McNabb, Philip		R. D
McNutt, W. Y.	Indianapolis	R. D
Nash, Geo. W.		R. D
Neff, David	Indianapolis	— 10
New, Geo. W	Indianapolis	R. D
Newcomer, F. S.	Indianapolis	R. D
Nesbit, Joseph	Castleton	R. D
Noble, Edward	Indianapolis	E. D
Oliver, D. H.	Indianapolis	R. D
Oliver, J. H.	Indianapolis	R. D
Park, H. A. S	Indianapolis	E. D
Partlow, John W.	Indianapolis	R. D
Parsons, Jno. S.	Indianapolis	— 10
Patterson, A. W.	Indianapolis	R. D
Pantzer, H. O.	Indianapolis	R. D
Page, Lafayette	Indianapolis	R. D
Payne, Jas. H.	Julietta	R. D
Peachee, Harrison	Maywood	R. 10
Pearson, C. D.	Indianapolis	R. D
Perry, Ralph	Indianapolis	R. D
Pfaff, O. G.	Indianapolis	R. D
Pettijohn, O. B	Indianapolis	R. D

Marion County—Continued.

Name.	*Post Office.*	*School.*	
Pickerell, Geo. W.	Indianapolis	E.	D
Pink, Herman	Indianapolis	R.	D
Porter, E. D.	Indianapolis	R.	D
Preston, Abram L		R.	D
Prunk, D. H	Indianapolis	E.	D
Purman, D. M.	Indianapolis	R.	D
Ratcliff, Barclay	West Newton	R.	D
Ragan, J. S		R.	D
Reynolds, Geo. W	Indianapolis	R.	D
Reade, Jeremiah	Traders' Point	R.	D
Records, Samuel	Lawrence	R.	D
Reyer, E. C.	Hospital Insane	R.	D
Raymond, Thos. U		R.	D
Rose, Fielden W		—	10
Rockafellow, W. A.		—	3
Ridpath, H. W	Indianapolis	R.	D
Ritter, C. L.		R.	D
Robeson, W. C	Indianapolis	R.	D
Roberts, Russel A	City Hospital	R.	D
Robertson, D. W		R.	D
Robbins, Wesley	Indianapolis	E.	D
Robinson, W. J.	Indianapolis	E.	D
Roesgen, Jno. P.	Indianapolis	—	10
Rooker, Jas. I.	Castleton	R.	D
Rooker, C. N	Indianapolis	R.	D
Rowe, L. M.	Indianapolis	R.	D
Rowley, Wm	Indianapolis	H.	D
Rubrush, T. R	Indianapolis	R.	D
Rutledge, W. V.	Indianapolis	E.	D
Runnels, O. S.	Indianapolis	H.	D
Runnels, Sollis	Indianapolis	H.	D
Sarber, W. H	Indianapolis	E.	D
Schmidt, E	Indianapolis	E.	D
Selman, A. G.	Indianapolis	—	10
Semple, W. T.	Indianapolis	R.	D
Serrin, James E	Indianapolis	R.	D
Sellers, T. P	Indianapolis	R.	D
Sharp, C. C	Indianapolis	E.	D
Silvey, Hilary	Castleton	—	3
Sims, J. T.		R.	D
Singleton, J. H	City Hospital.	R.	D
Smith, A. J	N. Indianapolis	E.	D
Smith, Mary		R.	D
Smith, Walter		P.-M.	D
Snowden, Jesse.	N. Indianapolis	R.	D
Spees, Geo. W	Glenn's Valley.	R.	D
Spicer, J. W	Acton.	R.	D
Spink, M. A	Indianapolis	R.	D
Stillson, Joseph	Indianapolis	R.	D
Stockton, Sarah		R.	D
Stratford, Alfred	Indianapolis	R.	D
Stratford, Isaac W	Indianapolis	R.	D
Stein, Frederick	Indiapapolis	R.	D
Stone, R. French	Indianapolis	R.	D
Shafer, Henry B		—	10
Sutcliff, Jno	Indianapolis	R.	D
Swain, Rachel	Indianapolis	E.	D
Swain, Fremont		R.	D
Stevens, Jas. E		P.-M.	D
Tomlinson, Samuel		R.	D
Taylor, James H	Indianapolis	R.	D
Thomas, A. J	Insane Hospital	R.	D
Thomas, E. C	Haughville	R.	D
Thomas, W. H	Indianapolis	R.	D
Thompson, D. A	Indianapolis	R.	D
Thompson, James L	Indianapolis	R.	D
Thompson, W. C	Indianapolis	R.	D
Todd, L. L	Indianapolis	R.	D
Tully, W. V	Indianapolis	R.	D
Vernon, Geo. W	Indianapolis	R.	D
Vickery, James	Indianapolis	R.	D
Wagner, Theo. A	Indianapolis	R.	D
Waide, Robert	Indianap'lis	P.-M.	D
Walker, I. C	Indianapolis	R.	D
Walker, Jno. C	Indianapolis	R.	D
Walker, Joseph B	Indianapolis	R.	D
Wail, David	Clermont	R.	D
Wall, James T	Haughville	E.	D
Watters, P. J	Indianapolis	R.	D
Warner, W. H	Indianapolis	R.	D
Wands, Wm	Indianapolis	R.	D
Ward, A. O	Indianapolis	R.	D
Waterman, Luther D.	Indianapolis	R.	D
Watson, T. N	Indianapolis	R.	D
Webb, Joshua	Indianapolis	—	10
Weiss, C. G	Indianapolis	R.	D
Westhoelter, C. A	Indianapolis	—	3
White, A. R	Indianapolis	R.	D
White, S. M.	Indianap'lis	P.-M.	D
Williams, Jas. R	W. Indianapolis	—	10
Williams, R. T.	Indianapolis	—	10
Wishard, Joseph	Indianapolis	R.	D
Wishard, W. H.	Indianapolis	R.	D
Wishard, W. N.	Indianapolis	R.	D
Wilson, Amos L	Indianapolis	R.	D
Wilson, C. A	Indianapolis	R.	D
Wilson, C. L	Indianapolis	R.	D
Woehrman, E. A	Indianapolis	H.	D
Wood, Clare	Haughville.	E.	D
Wood, Levi	Indianapo'is	P. M.	D
Wood, N. V.	Indianapolis	R.	D
Woodburn, Jas. H	Indianapolis	R.	D
Woodburn, F. C	Indianapolis	R.	D
Woodard, N. D	Indianapolis	P. M.	D
Woodward, S. G	Indianapolis	R.	D
Woollen, G. V	Indianapolis	R.	D
Wright, C. E	Indianapolis	R.	D
Yoke, Chas	Bridgeport	R.	D
Young, Jas	Indianapolis	—	10
Young, Thos. J		R.	D

Regular, 270; Eclectic, 40; Homeopathic, 13; Physio-Medical, 17; not reported, 39.

Marshall County.

Babeock, Isaac L	Maxinkuckee	E.	D
Bower, Isaiah	Plymouth	R.	10
Borton, T. A	Plymouth	R.	10
Baker, Joseph	Plymouth	E.	10
Bell, John F	Inwood	R.	10
Brooke, Jared E	Plymouth	R.	10
Caillat, Victor	Argos	R.	10
Chapman, Clark	Argos	E.	10
Deitrick, Wm. A	Bremen	R.	D
Denniston, James M	Lapaz	R.	10
Dunlap, Elizabeth W	Plymouth	H.	10
Dillenius, Erwin	Bourbon	R.	D
Eidson, J. W	Bourbon	R.	D
Eaton, Reason B	Argos	R.	10
Eley, Lorenzo D	Ilion	R.	D
France, Samuel	Bourbon	R.	D
Gould, S. W	Argos	R.	D
Herring, N. A	Bremen	E.	D
Holtzendorff, A. C	Plymouth	R.	D
Hamilton, John J	Lapaz	R.	D
Johnson, Luther	Bourbon	R.	10
Knott, David C	Argos	E.	D
Kendall, J. T	Walnut	R.	D
Kiser, James H	Inwood	R.	D
Keisewetter, P. H	Bremen	R.	D
Linn, Timothy T	Bourbon	R.	D
Loring, Samuel C	Burr Oak	R.	D
Miller, Allen G	Berlinton	H.	3

Marshall County—Continued.

Name.	*Post Office.*	*School.*	
Moore, Allen	Lapaz	R.	D
Moore, Chas. W	Tyner City	R.	D
Matchette, A. C	Bourbon	R.	D
Neville, R	Teegarden	R.	10
Oyler, Wm. A	Argos	R.	3
Pocock, Elias H	Walnut	R.	D
Richey, Samuel R	Donaldson	R.	10
Rea, Oliver A	Marmont	R.	D
Reynolds, Geo. S	Plymouth	R.	D
Sutton, James A	Argos	R.	10
Spencer, Joseph	Tippecanoetown	E.	10
Tripp, Franklin	Bremen	E.	10
Viets, E. W	Plymouth	H.	D
Wahl, G. Franklin	Bremen	R.	D
Wiseman, B. W. S	Marmont	R.	D
WILSON, JAS. H	Plymouth	R.	D
Younkman, A. B	Bremen	R.	D

Regular, 35; Eclectic, 7; Homeopathic, 3.

Martin County.

Brittain, S, H	Loogootee	R.	D
Campbell, J. C. L	Loogootee	R.	D
Dollins, T. C	Trinity Springs	R.	10
Gray, William	South Martin	R.	10
Malott, Geo. F	Trinity Springs	R.	10
McNabb, O. H	Keck's Church	R.	10
Plummer, I. N	Shoals	R.	D
Porter A. W	Loogootee	E.	D
Shirley, Henry W	Shoals	R.	D
SIMS, JASPER N	Dover Hill	E.	10
Trueblood, J. C	Loogootee	R.	D
Thomas, W. H	Keck's Church	R.	10
Walls, G. W	Shoals	R.	D

Regular, 11; Eclectic, 2.

Miami County.

Alford, Henry	Peru	R.	10
Ager, U. A	Peru	R.	D
Armstrong, W. K	Mexico	R.	3
Armstrong, A	Miami	R.	10
Brower, Joseph	Gilead	E.	D
Baldwin, J. A	Amboy	E.	10
Belero, John A	Chili	E.	10
Barnes, John	Macy	R.	10
Boggs, Mellon M	Macy	R.	10
Brenton, W. H	Peru	R.	D
BLOOMFIELD, E. M.	Peru	R.	D
Coe, A. D	Mexico	R.	D
Campbell, E. L	Miami	R.	3
Davis, L. H	Miami	E.	D
Davis, G. W	Miami	E.	D
Friermood, E. K	Amboy	R.	D
Graham, B. R	Peru	R.	D
Gray, A. J	North Grove	R.	3
Helm, John H	Peru	R.	D
Helm, C. J	Peru	R.	D
Higgins, A. B	Peru	R.	D
Howe, Lawrence E	Xenia	N. R.	—
Ijams, Thos. F	North Grove	R.	D
Kimball, A. D	Xenia	R.	D
Kersey, J. B	Xenia	P. M.	3
Kalbflish, A. H	Miami	H.	D
Kelsey, Jeremiah S	Xenia	R.	D
LaDue, John	Denver	R.	10
Lawshe, J. J	Wawpecong	R.	D
Litzenberger, D. P	Xenia	R.	3
Marsh, S. S	Peru	R.	D
Meek, Jas	Bunker Hill	R.	D
Maughmer, G. C	Wawpecong	R.	D
McDowel, H. P	Bunker Hill	R.	D
Mickey, Harvey P	Macy	R.	D
Mendenhall, A. O	Xenia	R.	D
Newell, J. M	Denver	R.	D
Pence, Rollins	Peru	R.	10
Passage, H. V	Peru	R.	D
Peters, J. B	Macy	R.	10
Rutherford, C. E	Peru	H.	D
Ramsey, L. G	Peru	R.	D
Ross, R. H	Bennetts	R.	D
Robbins, J. Q. A	Denver	R.	D
Ridenour, David	Chili	R.	D
Renert, John E	Peru	R.	D
Roberts, J. S	Denver	R.	D
Smith, R. W	Xenia	R.	D
Stewart, F. C	Peru	H.	D
Stewart, W. B	Peru	H.	D
Skinner, H. D	Denver	R.	D
Smith, A. F	Wawpecong	R.	D
Sutton, E. H	Macy	R.	10
Spooner, Jared	Peru	R.	D
Snook, O. F	Denver	R.	10
Ward, J. O	Peru	R.	D
Watkins, F. W	Peru	R.	10
Wilson, W. T.	Bunker Hill	R.	D
Wareham J. W	Gilead	R.	D
Waite, J. C	Chili	R.	D
Wilson, J. S	Macy	E.	3

Regular, 49; Eclectic, 6; Homeopathic, 4; Physio-Medical, 1; not reported, 1.

Monroe County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Axtell, A. J	Bloomington	R. 10	Lowder, L. T	Harrodsburg	R. D
Bryan, G. W	Bloomington	R. D	Maxwell, J. D., Sr	Bloomington	R. D
Barrow, D. W	Unionville	R. 3	Maxwell, J. D., Jr	Bloomington	R. D
Branam, Jonathan	Bryant's Creek	E. 10	Munsen, G. H.	Stanford	R. D
Bennington, J. C.	Unionville	N. R. 10	Oliphant, P. T	Beuna Vista	E. 3
Dodd, James	Clear Creek	R. D	Pressley, I. N.	Ellettsville	R. D
Farr, A. C.	Bryant's Creek	R. 3	Rice, N. S.	South Union	E. D
Gaston, J. H	Bloomington	R. D	Spencer, A. C	Unionville	R. D
Gray, O. F	Whitehall	R. D	Simpson, J. D.	Bloomington	R. D
Harris, J. E.	Bloomington	R. D	Smith, J. T	Harrodsburg	R. D
Harris, R. C.	Ellettsville	R. 10	TOURNER, J. P	Bloomington	R. 3
Harris, J. J.	Ellettsville	R. 10	Weir, R. M	Bloomington	R. D
Humston, S. R	Smithville	R. 10	Whitted, W. L	Ellettsville	R. D
Judah, W. P	Stinesville	R. 10	Warring, J. M	Smithville	R. 10
Judah, M. T.	Gent	R. 3			

Regular, 25; Eclectic, 3; not reported, 1.

Montgomery County.

Beatty, James L	New Market	R. D	Keeney, Henry	Linden	R. 10
Brown, Lonzo F	Alamo	R. D	Kleiser, Arthur J	Waveland	R. D
Brown, Iral L	Alamo	R. D	Kirkpatrick, Chas. S	Ladoga	R. D
Berryman, James L	Potato Creek	R. 10	King, Richard F	New Ross.	R. D
Black, Dayton R	New Richmond	R. D	Layne, Preston M	Crawfordsville	N. R. 10
Burroughs, Wm, H	Shannondale	R. D	Lewis, Edwin R	Crawfordsville	R. D
Bowers, Homer	New Ross.	R. 3	May, Willis L	Crawfordsville	R. D
Bronaugh, Chas. F	New Ross.	R. D	Morgan, Brastleton B	Crawfordsville	R. D
Ball, Zopher	Waveland	R D	Montague, Fred T	Crawfordsville	N. R. 10
Bilbo, John W	Waveland	R. 3	Mahorney, John C.	Ladoga	H. D
Barnes, Dawson E	Crawfordsville	E. D	Matler, Thomas S	Waveland	E. 10
COWAN EDWARD H	Crawfordsville	R. D	McMechan, James G.	Crawfordsville	R. D
Chambers, Wm. B	Crawfordsville	H. D	McClelland, Fanny.	Crawfordsville	R. 3
Culver, Dudley M	Waynetown	R. D	Naylor, Isaac E. G	Darlington	R. 10
Currie, John H.	Darlington	R. 10	Olin, Leverette W	Elmdale	R. D
Claypool, Joseph S	Waynetown	R. 3	Oxley, Joseph H	Whitlock	N. R. 10
Detchon, Elliott	Crawfordsville	R. 3	Olinger, David F	Brownsvalley	N. R. 3
Detchon, Irwin A	Crawfordsville	R. D	Owsley, Wm. J	Darlington	R. D
Detchon, Stow S	New Richmond	R. 10	Odell, Jacob L	Kirkpatrick	E. 3
Dewey, George W	Crawfordsville	R. 3	Parker, John.	Yountsville.	R. 3
Dingman, Joseph O	Linden	R. D	Purviance, Sam'l W	Crawfordsville	R. D
Duncan, Joseph R	Crawfordsville	E. D	Ristine, Warren H	Crawfordsville	R. D
Drake, Moses C.	Ladoga	R. D	Russell, Joseph P	Waveland	R. 10
Dunlavy, Ira C	Waveland	R. D	Rankin, Chas. E	Crawfordsville	R. D
Dunnington, R. C	Crawfordsville	R. D	Straughan, John W	Parkersburg	R. D
Davidson, Jesse F	Yountsville	R. D	Straughan, Kent K	Brownsvalley.	R. D
Eddingfield, Geo. W	Mace	R. D	Shannon, John J	Shannondale	R. 10
Ensminger Sam'l L	Crawfordsville	R. D	Shotts, Henry R	Linden	R. D
Ensminger, John A	Whitlock	R. D	Sutherlin, James F	Ladoga	R. D
Etter, Jacob R	Crawfordsville	R. D	Smith, John W.	Crawfordsville	R. D
Elmore, John Q	Smartsburg	R. D	Steele, Wm. W	Waveland	R. D
Gott, Wm T	Crawfordsville	H. D	Taylor, John N	Crawfordsville	H. D
Griffith, Martha E. H	Crawfordsville	R. D	Thornberry, John R	Crawfordsville	R. 10
Griffith, Thos. J	Crawfordsville	R. D	Talbot. Jesse N.	Alamo	R. D
Hutchings, Benj. F.	Crawfordsville	R. D	Trembley, Daniel G	Mace	E. D
Henry, Abijah F	Crawfordsville	R. D	Tucker, George W	Bowers	R. 3
Hoover, Mary	Crawfordsville	N. R. R	Wilhite, Mary H.	Crawfordsville	E. D
Hillis, James D.	Darlington	R. D	Washburn, Elihu P	Linden	R. D
Hurt, Wm. J	Waynetown	R. D	Washburn, Dr. M	New Richmond.	R. 10
Hamilton, Albert N	Waynetown	R. D	Wilson, John B	Ladoga	R. D
Hyten, W. H	Parkersburg	R. 10	Walden, Chas. H	New Market	R. 3
Irwin, Samuel G	Crawfordsville	R. D	Williams, George T	Brownsvalley	R. D
Jones, Oliver H	Crawfordsville	R. D	Willan, Ira C.	Whitesville	R. D
Keegan, Enoch W	Crawfordsville	R. D	Young, Dudley	New Market	R. 3

Regular, 73; Eclectic, 6; Homeopathic, 4; not reported, 5.

Morgan County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Blacstone, B. D	Martinsville	R. D	Monical, Grant S.	Brooklyn	R. D
Banta, Wm. C	Martinsville	R. 10	Miller, George W	Martinsville	R. 10
Bridges, A. P. W	Alaska	R. 3	MeAllister, Alex.	Alaska	R. 10
Cure, H. W	Martinsville	R. 10	McDonald, David H		R. D
Farr, U. H	Martinsville	R. D	McNabb, Phillip	Mooresville	R. D
Gravis, Chas. M	Martinsville	R. D	Pottorff, Wm. A	Eminence	R. D
GREEN, E. E.	Martinsville	R. D	Perce, Benj. H	Mooresville.	R. D
Green, James L	Morgantown	R. D	Prather, Wm. E	Mahalasville	R. 10
Griffith, Reuben C	Morgantown	R. D	Robinson, H. C	Martinsville	R. D
Grim, J. G	Waverly	R. D	Robbins, Clark	Mooresville	R. 10
Green, J. N	Hindostan	R. D	Reagan, A. W	Mooresville.	R. D
Griggs, Oscar B	Brooklyn	R. D	Rundell, S. N	Cope	R. D
Hendricks, W. E	Martinsville	R. D	Seaton, Charles	Martinsville	R. D
Henson, Theodore	Alaska	R. D	Seaton, Grafton W	Hall	R. D
Holman, Chas. C	Hall	R. 10	Stucky, Thomas	Mooresville	R. D
Holiday, Thomas F	Monrovia.	R. D	Shields, Wm. D	Eminence	R. D
Horton, Ellis	Monrovia.	R. D	Tilford, Benj. W	Martinsville	R. D
Johnson, Jarvis	Martinsville	R. D	Tilford, S. A	Martinsville	R. D
Jones, Howard C	Hall	R. D	Tarlton, R. H	Martinsville	R. D
Kennedy, D. P	Martinsville	E. D	Thompson, T. L	Monrovia	R. D
Kessinger, C. A	Martinsville	R. D	Vincent, J. K	Waverly	R. D
Kennedy, John.	Paragon	E. 10	Van Sant, Wm. B	Brooklyn	R. D
Knight, James H	Morgantown	R. D	Wharton, Jas. O	Waverly	R. D
Leathers, D. A	Mooresville	R. 3	Williamson, R. B	Paragon	R. D
Lindley, C. M	Brooklyn	R. D	Williams, Keylon H	Cope	R. D
Murphy, W. M	Morgantown	R. D	Wellins, Sarah E	Martinsville	R. D

Regular, 50; Eclectic, 2.

Newton County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Allen, A. D.	Roselawn.	R. D	Merry, J. W	Mt. Ayr.	R. D
BECKNER, J. F.	Kentland.	R. D	McCann, R. C.	Kentland.	E. D
Beckner, J. F., Jr	Kentland.	H. D	Pratt, L. M	Goodland.	R. D
Boice, B. R	Kentland.	R. D	Pratt, B. W	Goodland.	R. D
Colwell, ——	Mt. Ayr.	H. D	Recker, L. H	Morocco	R. D
Climer, ——.	Goodland.	E. D	Ransford, Geo	Lake Village	R. D
Chaffee, J. C. M	Kentland	P. M. D	Smith, G. B.	Foresman	R. D
Hatch, J. A.	Kentland.	R. D	Triplet, E. C	Morocco	R. D

Regular, 11; Eclectic, 2; Homeopathic, 2; Physio-Medical, 1.

Noble County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Bowker, James J	LaOtto	R. D	Malony, F. C	Avilla	R. D
Buchtel, Mary M	Ligonier	R, 10	Newton, Warren E	Ligonier	H. D
Bartley, R. W	Kendallville	E. D	Nifer, Frank J	Brimfield.	E. D
Bourie, David	Ligonier	E. 10	Olds, Wm. B	Kendallville	E. D
Carr, Geo. W	Ligonier	R. 3	Ohlwine, E. C	Merriam	R. D
DePew, E. W	Wolf Lake	R. 10	Palmeter. Celebron.	Ligonier	R. 10
Dunlap, Robert.	Kendallville	R. D	Pickett, C. M	Albion	H. D
Elis, C. J. F.	Ligonier	H. D	Reiff, N. G	Albion	H. D
Forey, Benj. F	Wawaka	R. D	Ruth, Henry	Kendallville	E. 10
Franks, W. H.	Ligonier	R. D	Shobe, Wm. A	Ligonier	R. D
Gilbert, Joseph L	Kendallville	R. D	Seymore, Calvin A	Wawaka	R. D
Gants, John	Cromwell	E. D	Schlotterback, E. L	Ligonier	R. 3
Green, Thomas C.	Albion	R. D	Smith, Jacob F	Rome City	R. 10
GREEN, W. T.	Albion	R. D	Trader, James L	Avilla	R. D
Grant, Fernando A.	Ligonier	R. D	Tucker, Henry G	Cromwell.	R. 10
Hays, John W	Albion	R. D	Woodruff, Geo. S	Ligonier	E. 10
Isbell, Philander	Kendallville	R. 10	Williams, Warren S	Kendallville	R. D
Kester, Richard S	Avilla	H. D	Williams, S. T	Kendallville	E. D
Kuepper, Edwin W	Ligonier	R. 10	Williams, Nathan	Kendallville	E. 10
Lemmon, S. W	Albion	R. D	Williams, Robert B	Rome City	R. 10
Mitchell, Wm. L.	Ligonier	R. D	Williams, R. B., Jr.	Rome City	R. 3
Moore, Nathan B.	Merriam	R. 3	Wilson, D. C	Kendallville	E. D

Regular, 29; Eclectic, 10; Homeopathic, 5.

Ohio County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Alders, T E	Rising Sun	R. 3	Miller, James B	Hartford	R. 10
Elfers, John	Bear Branch	R. D	Rockafellow, W. A	Guionsville.	R. 3
Craig, Wm. H	Rising Sun	R. 10	Stevenson, Geo. A	Rising Sun	R. D
Gillespie, Wm	Rising Sun	R. 10	Sullivan, W. H	Rising Sun	R. D
Gillespie, Wm. R.	Rising Sun	R. D	Wilson, N. H	Hartford	R. 3
Langsdale, R. G	Rising Sun	R. D			

Regular, 11.

Orange County.

Name.	*Post Office.*	*School.*	
Baker, Jas	Stamper's Cr'k.	R.	3
Bowels, L. F	Paoli	R.	10
Brent, Wm	Newton Stewart	R.	D
Boyd, C. L	Bromer	R.	D
Carter, G. P.	Orangeville.	R.	D
Ellis, Wm. D	Young's Creek	R.	10
Gilliatt, Wm. B.	Young's Creek	R.	D
Hackney, W. R.	Orleans	R.	10
Hon, B. J	Orleans	R.	D
HON, U. H	Paoli	R.	D
Hazlewood, Geo. R.	Valeene	R.	D
Hazlewood, Green	Chambersburg	R.	D
Hunt, F. P	Leipsic	R.	3
Kochenour, Wm. P.	Rego	R.	D
Laughlin, E. D.	Orleans	R.	D
Lingle, R. W	Orleans.	R.	D
Lindley, Laban.	Paoli	R.	D
Maxedon, Thos. H	Don't know	N. R.	D
May, Geo. W	Orleans.	R.	D
Montgomery, J. W	Paoli	R.	D
Ryan, Samuel	French Lick	R.	3
Ritter, John A., Jr	West Baden	R.	D
Ritter, John A., Sr	Orangeville	R.	3
Ritter, Thos. B	Orangeville.	R.	3
Smith, E. H	NewtonSt'rt	R.	3
Smith, James H.			3
Sherrod, James H	Paoli	R.	3
Sherrod, Wm. F	West Baden	R.	3
Stroud, E. D	N'ton St'rt.	N. R.	10

Regular, 26; not reported, 2.

Owen County.

Belles, J. T	Spencer	R.	D
Baker, C. T	Spencer	N. R.	10
Coble, Jacob	Spencer	E.	—
Cox, N. D	Spencer	R.	—
Erskine, A. C	Housertown	R.	—
Fisher, B. F	Quincy	R.	—
Frey or Lieler	Spencer	N. R.	10
Goss, J. M	Freedom	R.	—
Gilbert, Wm. H	White Hall	R.	10
Gray, O. F	White Hall	R.	—
Ganntz, Thos	Freedom	R.	10
Gray, Geo. B	White Hall	R.	—
Hixon, Wm. H	Farmer	E.	10
Hester, U. A. V	Arney	R.	10
Hamilton, J. W	Coal City	R.	—
Jones, J. M	Cateract	R.	10
Keeper, Geo. F	Quincy	R.	—
Livingston, J. J	White Hall	P.-M.	—
Medaris, S. D	Jordon Village	E.	10
Minich, A. J	Freedom	R.	10
McDonald, D. H	Quincy	R.	—
Mullinix, E. N	Spencer	E.	10
Maddux, W. B. S	Vandalia	R.	10
MeCabe, H. H	Coal City	R.	—
McKelvy, S. R	Patricksburg	R.	—
Naones, Geo. W	Arney	R.	10
Osgood, H. G	Gosport	E.	—
Pearson, Allen	Spencer	R.	—
Prichard, W. K	Gosport	R.	—
Richards, S. D	Patricksburg	R.	10
Rice, W. H	Cuba	R.	—
Schell, Walker	Spencer	R.	—
Stuckey, J. M	Gosport	R.	—
Stuckey, Fred	Gosport	R.	—
Smith, John W	Gosport	R.	—
Symons, T. C	Housertown	R.	—
WILES, W. V	Spencer	R.	—
Williams, J. A	Patricksburg.	R.	10
Wooden, J	Gosport	R.	—
Wheeler, Thos	Freedom	R.	—
Willigman, C. R	Coal City	N. R.	10
Young, Wm. S	Coal City	R.	—

Regular, 33; Eclectic, 5; Physio-Medical, 1; not reported, 3.

Parke County.

Ball, James T	Judson	R.	D
Boyd, James M.	Annapolis	R.	D
Baldridge, Robert A	Roseville	E.	D
Caplinger, Charles A	Marshall	R.	3
Cross, Joseph F	Rockville	R.	D
Campbell, Armie B.	Rockville.	E.	D
Darroach, William P	Hollandsburg	R.	D
Daly, George P	Rockville.	R.	D
Dare, John S	Bloomingdale	R.	10
Deverter, George T.	Lodi	R.	D
Dooley, Rufus L	Armiesburg	R.	3
Goldsberry, John A	Annapolis	R.	D
Gillum, William H.	Rockville	R.	D
Garrigus, John J	Sylvania	R.	3
Goss, Marrian	Rockville.	R.	D
Hudson, Benjamin F	Montezuma	R.	D
Holmes, William B.	Lodi	R.	10
Hansell, David	Lena	R.	10
Johnson, Marion A.	Coxville	R.	D
Lynch, Joel Y	Rosedale	R.	D
Leech, Thomas F.	Judson	R.	D
McKey, Richard H. W	Russell's Mills	R.	10
McCune, Geo. W	Montezuma	R.	D
Mater, Jacob D	Bridgeton	R.	D
MORRIS, CHAS. C	Rockville	R.	D
Martin, Alonzo	Bellmore	R.	D
Morris, Aaron W	Coloma	R.	D
Myres, John G. L.	Bloomingdale	R.	D
Moore, Alex. H.	Bellmore	R.	D
Norman, James I	Parkville.	R.	D
Powell, Beecher B	Marshall	E.	D
Rice, Harrison J	Rockville	R.	D
Reeder, Joseph C.	Montezuma	E.	D
Thomas, William D	Rockville.	R.	D
Tilney, William D	Rosedale	E.	D
Vancleave, Elijah L	Catlin	R.	3
Williamson, Wm. N	Sylvania	R.	D
Woody, George C	Annapolis	N. R.	10
Williamson, Alvin A.	Sylvania	R.	3
Webster, Reuben	Rosedale.	N. R.	10
Webster, Ellen	Bridgeton	P.-M.	D

Regular, 33; Eclectic, 5; Physio-Medical, 1; not reported, 2.

Perry County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Allen, Thos. J.	Adyeville	R. 10	Hendrixson, A. M. D.	Rono	R. D
Allenbaugh, Elm'r E.	Leopold	E. D	Hix, Wm. R.	Don Juan	R. 10
Adye, Andrew J	Adyeville	R. 10	Howard, W. R.	Lily Day	R. 10
Brucker, Chas. M.	Tell City	E. D	Lang, John W	Cannelton	R. 10
Bennett, J. B.	Derby	R. 3	Ladd, Chas. W	Cannelton	R. D
Brown, G. W	Doolittle's Mill	R. 10	Lee, Jno. H.	Rome	R. D
Bradshaw, S. M	Bristow	R. D	Lomax, Wm	Bristow	E. D
Cassidy, Joseph	Bristow	R. 3	Mitchell, F. A.	Cannelton	R. D
Cluthe, Wm	Tell City	R. D	Meeks, Lewis	Branchville	R. D
Carnavan, J. W	St. Croix	R. 3	Ripperdam, Jno. H.	Rono	R. 10
Cox, Chas. E	Cannelton	R. 10	Shellhase, F. W.	Tell City	H. D
Critchfield, Jno. S	Fosters Ridge	E. D	VanWinkle, Sylvest'r	German Ridge	R. 10
CURRY, H. M	Cannelton	R. D	Wedding, M. F.	Rome	R. D
Dome, D. C.	Troy	R. 10	Webb, J. R	Troy	E. 3
Evans, F. A.	Tell City	R. 10			

Regular, 24; Eclectic, 5; Homeopathic, 1.

Pike County.

Adams, J. R	Petersburg	R. D	Harrington, A. J	Velpen	R. 10
BYERS, A. R.	Petersburg	R. D	Ireland, G. D.	Winslow	R. D
Bethell, W. J	Petersburg	R. 10	Johnson, L. B	Otwell	R. D
Basinger, T. W	Oatsville	R. D	Kime, R. R	Petersburg	R. D
Beardsley, J. M	Winslow	R. D	Kepley, Wm	Petersburg	E. 10
Blythe, W. T	Glezen P. O	R. 3	Lance, J. T	Spurgeon	R. D
Bergen, J. W	Petersburg	R. D	Link, W. H.	Otwell	R. D
Brown, Josiah	Petersburg	R. 10	Laman, I. H	Petersburg	E. D
Coleman, J. W	Union	R. D	Osborn, W. D	Spurgeon	R. D
Corn, Nathaniel	Augusta	R. D	Pagin, Henry	Velpen	E. D
Duncan, J. B	Petersburg	R. D	Plummer, T. D	Petersburg	P.-M. 10
DeLar, David	Winslow	R. D	Rhoades, A. J	Pikeville	R. 10
DeMott, W. M	Algiers	R. D	Rupell, W. H.	Petersburg	R. D
Fullenwider, C. H	Petersburg	R. D	Smith, J. T	Glezen P. O	R, 10
Ferguson, Thomas	Spurgeon	R. 10	Schenck, H. F	Oatsville	R. D
Ferguson, J. W.	Pikeville	R. 10	Stork, J. H	Stendal	R. D
Godwin, J. W.	Otwell	H. 10	Thomas, M. C	Petersburg	H. 10
Hawkins, John	Petersburg	R. D	Taylor, J. N. T.	Velpen	E. 10
Holloway, W. E	Petersburg	H. 10	Woodward, L. E	Winslow	R. D
Harris, R. W	Delectable Hill	R. D	Ward, J. P	Union	R. D

Regular, 32; Eclectic, 4; Homeopathic, 3; Physio-Medical, 1.

Porter County.

Arnold, Geo. W	Valparaiso	R. D	Letherman, A. P	Valparaiso	R. D
Atkins, Lyman	Kout	E. D	Marr, Dolos D	Chesterton	R. D
Blackston, John K	Hebron	R. D	McCarthy, John F	Valparaiso	R. D
Blackston, Jno. K., Jr	Hebron	R. D	McKee, Chas. W	Kouts	R. D
Blackston, Wm. B	Hebron	R. D	Newland, Jas. H	Valparaiso	R. D
Beer, Henry M	Valparaiso	R. D	Nolan, Philip D	Boon Grove	R. D
Cattron, Wm. O	Valparaiso	H. D	Oakes, Omar	Wheeler	R. D
Corey, Ernest A	Chesterton	R. D	Pratt, Sam'l R	Hebron	R. D
Coates, Hays C	Valparaiso	R. D	Pagin, Sam'l	Valparaiso	E. D
Edmunds, Enos A	Hebron	H. D	Ryan, Jon A	Valparaiso	E. D
Green, Hiram	Chesterton	R. 10	Sayles, Marshall F	Valparaiso	H. 10
Hubbard, R. B	Hebron	E. D	Vincent, Alonzo W	Valparaiso	E. D
Jones, E. J	Hageman	R. 10	Wood, Oliver S	Hebron	E. D
LORING, DAVID J	Valparaiso	R. D	Yohn, Wm. A	Valparaiso	R. D

Regular, 19; Eclectic, 6; Homeopathic, 3.

Posey County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Allen, Leroy R	Cynthiana	E. 3	Millard, Z. R	Griffin	R. D
Brydon, John F	Griffin	R. 3	Murphy, Edward	New Harmony	R. D
Bucklin, Geo. W	New Harmony	R. D	Neal, Daniel	New Harmony	R. 10
Bitz, L. B	Blairsville	R. D	Pearse, S. H	Mt. Vernon	R. D
Carey, W. P	Hovey	R. 3	Peckinbaugh, G. R	Mt. Vernon	R. D
Cosby, L. B	Cynthiana	R. 3	Powell, J. W	Mt. Vernon	R. 3
Cremeens, W. C	Grafton	E. D	RAMSEY, D. C	Mt. Vernon	R. D
Dailey, T. J	Poseyville	R. 10	Rawlings, S. O	New Harmony	R. D
Deutsdorff, H. B	Parker's S't'mt.	R. 10	Rutledge, J. C	Mt. Vernon	R. 10
Dixon, R. S	West Franklin	H. 10	Rutter, John	Cynthiana	E. D
Elliott, Cyrenius, Sr	Poseyville	R. 10	Schultz, O. T	Mt. Vernon	R. D
Elliott, Cyrenius, Jr	Blairville	R. 3	Spencer, E. V	Mt. Vernon	R. D
Gudgel, James E	Cynthiana	R. D	Smyth, R	Mt. Vernon	R. D
Gammon, D. A	Solitude	R. D	Smith, W. F	Cynthiana	E. D
Glaze, L. A	Stewartsville	R. D	Williams, Jos. B	Grafton	R. 3
Gettings, C. C	Grafton	R. 10	Williams, Thos. F	St. Wendel	E. D
Holton, W. M	New Harmony	R. D	Wilson, Thos. W	New Harmony	R. D
Hicks, C	Caborns	R. D	Wilson, P. D	Mt. Vernon	R. 10
Huston, J. C	Mt. Vernon	R. D	Wilson, John B	Cynthiana	R. 10
Harper, John	Mt. Vernon	R. D	Welborn, Geo. W	Stewartsville	R. D
Hensler, Ernst	West Franklin	R. 3	Welch, Walter	Mt. Vernon	R. D
Henderson, S. C	St. Philip	R. D	Young, Thos. B	Poseyville	R. D
Krangrill, David	Wadesville	R. D			

Regular, 39; Eclectic, 5: Homeopathic, 1.

Pulaski County.

Brown, Stephen I	Francisville	R. 10	Pettison, Harris E	Winamac	R. D
Buck, Felix G	Oak P. O	R. 3	Robinson, Felix B		R. D
Huey, Robt B	Pulaski	R. D	Reed, John T.	Beaver Towns'p	R. 10
Hovins, R. R	Francisville	R. D	Sharer, John C	Francisville	R. D
Jones, Horace G	Medaryville	R. D	Stephens, Henry C	Star City	P. M. D
Kelley, Wm	Monterey	R. D	Thomas, F. B	Winamac	R. 10
Kittenger, H	Winamac	R. D	THOMAS. J. J.	Winamac	R. 10
Kidd, Walter J.	Medaryville	R. D	Thompson, Geo. W	Winamac	R. D
Moss, D. F	Winamac	R. D	Thompson, Wm. H	Winamac	R. D
McPherson, Chas. F	Pulaski	R. D	Vaughin, Martin	Winamac	R. 3
Osborn, James	Star City	R. 10			

Regular, 20; Physio-Medical, 1.

Putnam County.

Allen, Chas. A	New Maysville	R. 3	Mahorney, J. W	Belle Union	R. D
Batman, W. F	Roachdale	R. D	McCandlers, A. S.	Roachdale	R. D
BENCE, GEO. W	Greencastle	R. D	Newgent, R. P	Morteh	R. 10
Bastion, J. V	Belle Union	R. D	Pritchard, W. K	Cloverdale	R. D
Cully, J. F	Bainbridge	R. D	Pitchlynn, H. R	Greencastle	R. 10
Cross, J. B	Bainbridge	R. D	Preston, J. L	Cloverdale	R. D
DeVore, H. V	Greencastle	R. D	Preston, A. G	Greencastle	R. D
Denny, R. B	Fillmore	R. 10	Purcell, W. M	Reelsville	R. D
Dooley, R. L	Russelville	R. 3	Pritchard, Louis	Cloverdale	E. D
Evans, E. B	Greencastle	R. D	Poole, Geo. W	Russelville	R. D
Farver, Geo. W	Bainbridge	R. D	Robinson, J. H.	Fillmore	R. D
Farris, E. G	Clinton Falls	R. D	Rogers, Dudley	Greencastle	R. D
Grimes, J. B	Mt. Meridian.	R. 10	Smythe, G. C.	Greencastle	R. D
Hanna, L. M	Greencastle	R. D	Stockwell, G. W	Greencastle	R. D
Harris. Wm C	Carpentersville.	R. D	Stanley, L	Fincastle	R. D
Hill, W. D	Greencastle	H. 10	Slavens, John	Brick Chapel	R. D
Horn, A. H	Putnamville	R. D	Spurgeon, F	Mt. Meridian	R. D
Hawkins, E.	Greencastle	R. D	Smythe, A. E.	Fillmore	R. D
Hamilton, R. S	Portland Mills	R. 10	Taylor, Mary J.	Greencastle	H. D
Harvey, J. W	Russelville	R. 10	Taylor, G. W.	Greencastle	H. 10
Knight, J. M	Greencastle	E. D	Throop, Geo. A.	Greencastle	R. 10
Leatherman, J. R	Greencastle	R. D	Towey, J. F.	Russelville	R. D
Larue, Benjamin	Portland Mills	R. D	Wood, N. S.	Groveland	R. D
Mullinix, P	Cloverdale	R. 3	Zaring, C. T.	Reelsville	R. D
Morrow, L. B	Greencastle	R. D			

Regulars, 44; Eclectic, 2; Homeopathic, 3.

Randolph County.

Name.	*Post Office.*	*School.*	
Alexander, R. P	Winchester	P. M.	D
Alexander, Prudence	Winchester	P. M.	10
Bailey, Elisha T	Ridgeville	R.	D
Ballard, Amos B	Deerfield	R.	D
Berry, John S	Spartansburg	R.	D
Blair, James S	Lynn	R.	D
Bosworth, Richard	Winchester	R.	D
Botkin, John W	Unionport	E.	10
Botkin, Thos. W	Unionport	E.	3
Carter, David M	Modoc	R.	D
Cox, Cyrus	Lynn	R.	D
Carver, James M	Winchester	R.	10
Chenoweth, J. T	Winchester	R.	D
Chenoweth, Forest A	Winchester	R.	D
Chenoweth, Nelson T	Windsor	R.	D
Commons, Wm	Union City	R.	D
Coggshall, Wm. R	Carlos City	E.	10
Davis, Lewis N	Farmland	R.	D
Evans, C. S	Union City	R.	D
Evans, Geo. S	Saratoga	R.	10
Evans, Joseph J	Winchester	R.	10
Farquhar, Allen H	Ridgeville	E.	D
Fager, C. M	Fairview	R.	10
Franks, H. P	Losantville	R.	D
Frederick, Geo. W	Ridgeville	R.	D
Frazier, John W	Union City	P. M.	10
Gustin, Francis M	Union City	H.	D
Huddleston, A. F	Winchester	H.	D
Hammon, E. W	Winchester	R.	D
Heiner, John	Arba	R.	D
Hetzler, Wm. W	Arba	R.	D
Hunt, Henry C	Trenton	R.	3
Hunt, Pleasant	Farmland	E.	10
Hiatt, John A	Ridgeville	E.	D
Hiatt, C. C	Ridgeville	E.	D
Hamilton, R	Lynn	R.	10
Johnson, Harvey B	Ridgeville	R.	D
King, James H	Castle	R.	10
Keener, James M	Farmland	R.	10
Lawrence, M. H	Union City	R.	D
MARKLE, JOHN E	Winchester	R.	D
Mote, Elijah V	Union City	E.	D
Marquis, Wm. K	Bartonia	E.	10
Martin, J. Chas	Union City	R.	D
Moroney, James H	Carlos City	R.	D
McFarland, Norman	New Pittsburg	E.	10
Nixon, John	Farmland	R.	D
Owens, John R	Harrisville	R.	3
Purcell, John	Deerfield	R.	D
Proctor, J. A	Union City	P. M.	10
Rogers, Aaron G	Parker	R.	D
Reynard, Granville	Union City	R.	D
Ruby, Samuel B	Union City	R.	3
Reeves, John L	Union City	E.	D
Rickard, Wm. A	New Pittsburg	E.	D
Rickard, Claudia A	New Pittsburg	E.	D
Remmel, Sylvania	Winchester	P. M.	10
Smith, Wm. G	Winchester	R.	D
Smith, Calvin	Farmland	E.	D
Shoemaker, Wm. J	Ridgeville	R.	10
Thompson, Geo. W	Union City	E.	D
Thompson, Val	Union City	E.	10
Lisor, Wm. R.	Rural	R.	10
Welbourne, E. L	Union City	E.	D
White, James K	Union City	R.	D
White, L. E.	Spartansburg	P. M.	D
Yergin, H. H	Union City	R.	D

Regular, 42 ; Eclectic, 16 ; Homeopathic, 2 ; Physio-Medical, 6.

Ripley County.

Abbott, Mano.	Milan.	E.	D
Abbott, June	Milan.	E.	D
Anderson, James.	Versailles	R.	D
Brown, Charles M	New Marion	R.	D
Clark, Freeman	Rei	R.	D
Cass, Chester H.	Holton	R.	D
Davis, James R.	Morris	R.	D
Freeman, Edward D	Osgood	R.	D
Freeland, John P.	Sunman	R.	D
Hickey, John C.	Napoleon	P. M.	D
Holbert, Wm. M	Elrod	R.	D
Hess, John A.	New Marion	R.	D
JONES, JOHN G	Versailles	R.	D
Joseph, Alexander F.	Osgood	R.	D
Lamb, James F	Rei	E.	D
Miller, Robert H	Cross Plains	R.	D
Miller, Albert G	Elrod	E.	D
Newforth, Christian	Sunman	R.	D
Olmstead, Russell T	Versailles	R.	D
Parsons, George E	Rei	E.	D
Penn, Luke.	Rexville	E.	3
Robinson, John M	Versailles	R.	D
Roberts, Jeremiah	Holton	R.	3
Redlon, Daniel M	Pierceville	R.	3
Sweezey, John M.	Cross Plains	E.	10
Schloesser, Geo. F	Sunman	R.	10
Sweezey, Frank C	Cross Plains	E.	D
Townsend, Samuel B.	Poston	R.	D
Vincent, Edwin B	Sunman	R.	D
Young, Robert W.	South Milan	R.	10
Ziteke, Joseph	Batesville	R.	D

Regular, 22 ; Eclectic, 8 ; Physio-Medical, 1.

Rush County.

Axline, J. A	Raleigh.	R.	D
Arnold, Jno	Rushville.	R.	—
Beher, Edward H.	Rushville.	E.	D
Bogart, H. J	Carthage	R.	10
Barnum, Wm. E	Manilla	R.	D
Crippen, E. H	Milroy	R.	3
Drake, Flavious J	Carthage	R.	D
Elliott, H. H	Glenwood	R.	10
Gilbert, Chas. H	Rushville.	H.	D
Green, James C.	Arlington	R.	D
Green, Lot	Rushville.	R.	D
Graham, Andrew E	Richland	R.	10
Glass, T. F	Arlington	R.	3
Hackleman, F. G.	Rushville.	R.	D
Hargrave, W. S.	New Salem	R.	D
Hobbs, O. W	Mays	R.	D
Inlow, John J	Manilla	R.	10
Johnson, W. A	Falmouth	R.	D
Linn, H. G	Rushville.	H.	D
London, Lucien A	Manilla	R.	D
Moffett, John.	Rushville.	R.	D
Megee, William M	Occident	R.	D
Megee, Omar	Rushville.	R.	D
McGaughey, John E	Arlington	R.	D
McMahan, Samuel W.	Rushville.	R.	D
Newlin, S. C	New Salem	R.	D
Orr, James P	Glenwood	R.	D
Pugh, Wm. A.	Rushville.	R.	D
Parsons, Chas. H.	Rushville.	R.	D
Ross, L. G	Raleigh.	R.	10
Redding, Jacob.	Carthage	P.-M.	D
Rucker, Thomas	Arlington	R.	10
Sexton, Marshall.	Rushville.	R.	D
Sexton, John C.	Rushville.	R.	D
Smith, Wm. H	Rushville.	R.	D
Sparks, James B.	Carthage	R.	D
Spurrier, John H.	Rushville.	R.	D
Tevis, James L. W. T.	Moscow.	R.	10
Thomas Samuel C	Milroy	E.	D
WELLIVER, JAS. E	Rushville.	H.	D
Wright, George.	Sexton	P.-M.	D

Regular, 34 ; Eclectic, 2 ; Homeopathic, 3 : Physio-Medical, 2.

Scott County.

Name.	*Post Office.*	*School.*		*Name.*	*Post Office.*	*School.*	
Bierey, T. E	Scottsburg	R.	D	Lathrop, A. H	Lexington	R.	D
Blotcher, J. B	Blotcher	R.	D	Moser, J. S	Vienna	R.	10
Casey, H. R.	Austin	R.	D	Sarver, J. A	New Frankfort.	R.	D
Davis, Wm. H	Lexington	R.	10	Warmoth, G. M	Scottsburg	R.	D
Green, W. E	Lexington	E.	10	WATSON, J. M	Scottsburg	R.	D
Hougland, M. E. M	Vienna	R.	10				

Regular, 10; Eclectic, 1.

Shelby County.

Adams, James M.	Noah	R.	D	Maddox, J. F.	Shelbyville	E.	D
Abernathy, A. A	Morristown	N. R.	10	McFadden, Wm. G.	Shelbyville	R.	D
Black, F. B	Bengal	E.	D	McCray, Robert S	Morristown	R.	D
Bowley, Joseph	Noah	R.	D	Pierson, William M	Fountaintown	R.	D
Bawlor, W. K.	Waldron	E.	D	Perry, John	Shelbyville	R.	D
Bentley, W. R	Morristown	H.	D	Parish, John W	Shelbyville	E.	D
Comstock, J. A	Marietta	R.	D	Pettigrew. D. A.	Flat Rock	R.	D
Clubb, J. W	Fairland	R.	D	Posz, Margaret	Shelbyville	N. R.	—
Connelly, Henry M.	Flat Rock	R.	D	Rubush, Thos. R	London.	R.	D
Coleman, Emma	Shelbyville	E.	D	Raynes, R. R	Lewis Creek	R.	10
Carter, James	Gwynneville	R.	3	Rucker, J. W	Shelbyville	R.	D
Flemming, George W	Shelbyville	R.	D	Strickler, Stephen L	Boggstown	R.	D
Ford, William M	Mt. Auburn	R.	D	Snider, John W	Fairland	R.	D
Floyd, R. M	Shelbyville	R.	10	Stuart, J. K	Fairland	R.	D
Gordon, William B.	Manilla	R.	10	Smith, Hezekiah	Lewis Creek	N. R.	10
Gilmore, Moses R	Boggstown	R.	D	Stewart, John B	Marietta	R.	10
Green, James W	Shelbyville	R.	D	Sanford, James H	Shelbyville	R.	3
Inlow, I. W	Blue Ridge	R.	3	Stackhouse, U. S	Morristown	R.	D
Jenkins, J. R	Waldron	R.	D	Shrout, Wm. T	Blue Ridge	E.	10
Jones, Thomas S	Shelbyville	R.	D	TREES, IRVIN W	Smithland	R.	D
Kennedy, S. A	Winterrowd	R.	3	Taylor, John F	Sulphur Hill	R.	D
Keeling, William W	Sulphur Hill	E.	D	Tindall, Charles A	Shelbyville	E.	D
Knapp, W. T	Shelbyville	H.	D	Tull, E. N	Fairland	E.	D
Kennedy, S. A	Shelbyville	R.	D	Washburn, R. R	Waldron	R.	D
Kennedy, Thomas C	Shelbyville	R.	D	Wolf, Jacob G	Morristown	R.	D
Lowden, John	Carrolton.	E.	D	Winters, Gustav. G.	Shelbyville	H.	10
Lucas, J. N	Shelbyville	H.	D	Whetzel, Frank F	Morristown	R.	D
Leech, E. W	Shelbyville	R.	10	Wells, Edward F	Shelbyville	R.	D

Regulars, 40; Eclectic, 10; Homeopathic, 4; not reported, 3.

Spencer County.

Adye, George P.	Newtonville	E.	D	John, B. B	Newtonville	E.	15
Anderson, E. M.	Huff	R.	D	Killian, J. L	Eureka	N. R.	10
Austin, Thomas R	Chrisney	E.	D	Lucas, L. B.	Buffaloville	E.	D
Bean, Albert M.	Gentryville	E.	D	Littlepage, S. B.	Rockport	R.	D
Bryant, J. B	Gentryville	R.	3	Lee, Hardin A	Buffaloville	R.	D
BRYANT, W. S.	Dale	R.	D	Lang, Jacob	Lake	H.	D
Billart, F. W	Chrisney	R.	35	Lamar, H. L	Eureka	H.	D
Bryant, James H.	Gentryville	R.	25	Milner, Isaac L.	Lockport	R.	D
Butler, James M	Troy (Perry Co.)	E.	D	Medcalf, A. F.	Dale	R.	10
Buxton, John L.	Rockport	E.	D	Myler, John M	Eureka	R.	D
Daily, James M.	Rockport	R.	D	Maslowsky, Felix	Maria Hill	R.	D
Dyer, Abraham S	Huffman	N. R.	10	Mann, William A.	Rockport	R.	D
Ehrman, E. D	Rockport	H.	3	McCoy, L. H	Lake	R.	D
Hackleman, F. M.	Rockport	E.	D	McCoy, George W	Chrisney	R.	D
Harrison, E. P	Rockport	N. R.	10	McKasson, John W.	Gentryville	R.	10
Hammond, David M	Grandview	R.	D	Schweizer, John J	Santa Claus	N. R.	3
Hunter, Stephen W.	Chrisney	R.	3	Smith, John R	Chrisney	E.	D
Hutchinson, R. H.	Gentryville	R.	D	Turpie, James	Grandview	E.	D
Gengelbach, E. E.	St. Meinrad	E.	D	White, Arthur	Rockport	R.	D
Gatewood, T. H.	Midway	R.	D	Worsley, George	Grandview	R.	D
Jones, William M	Gentryville	R.	D	Wright, Thomas	Midway	R.	D
Jolly, J. C.	Lake	E.	D	White, John T	Grandview	R.	3
Johnson, Thomas J.	Dale	R.	D	Williams, W. H.	Dale	E.	D
James, John B	Buffaloville	E.	10				

Regular, 26; Eclectic, 14; Homeopathic, 3; not reported, 4.

Starke County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Abner, Jno. R	Grovertown	P.-M. D	Garner, Henry	Knox	E. 10
Agnew, Thos. J.	San Pierre	R. D	Henderson, A. H	Knox	E. 10
BONAR, S. S	Knox	R. 10	Hunt, Z. P	Ora	E. 10
Burson, A. H	Hamlet.	E. 10	Streckman, Martin	Ora	E. 10
Connor, L. E	Knox	P.-M. 10	Rannells, W. S	North Judson	R. D
Coffin, Ellen	Davis	N. R. 10	Nolan, J. F	North Judson	R. D
Dunfee, Joseph	Knox	P.-M. D	Wright, M. R.	Knox	E. 10
Glazebrook, L. D	Knox	R. 10	Watson, J. C	Knox	R. D

Regular, 6; Eclectic, 7; Physio-Medical, 3; not reported, 1.

Steuben County.

Abbott, Lyman.	Fremont	R. D	Leas, Emanuel R.	Angola	E. 10
Bowen, Murville M	Flint	R. D	Moore, John H	Angola	E. 10
Brown, David N. E.	Hamilton.	R. 10	McNabb, Theodore.	Fremont	R. D
Cameron, John I	Hamilton.	R. D	Ransberry, Martin V.	Salem Center	R. D
Clay, Mark I	Salem Center.	E. D	Shaw, Marion F	Angola	R. D
Dolph, Cassius M.	Metz	R. D	Sanburn, F. P	Fremont	H. D
Fuller, Stephen H	Pleasant Lake	R. D	Schofield, Samuel	Hamilton.	E. 10
Firestone, John L	Salem Center.	R. D	Staufer, Z. W	Fremont	R. D
Goodall, Chas. W.	Metz	R. D	Taylor, Edward A	York Center	R. D
Green, M. K	Pleasant Lake	E. 10	WOOD, H. D.	Angola	R. D
Hamilton, Frank C.	Hudson.	R. D	Weicht, William C	Angola	H. 10
Keesler, George	Orland	R. 10	Waller, William H	Angola	R. D
Kinsey, J. C	Salem Center.	R. 10	Wilkinson, J. J.	Orland	E. 10
Kimmel, Alva J	Hudson.	R. D	Wood, I. F	Metz	R. D
Keyes, Chas. R	Fremont	R. D	Wallace, James F	Orland	R. D

Regular, 22; Eclectic, 6; Homeopathic, 2.

St. Joseph County.

Applegate, Chas. H	South Bend	R. D	Moore, Robert	Lakeville	R. 10
Arlington, Jas. W	Walkerton	R. D	Maurer, John	South Bend	E. 10
Borough, John	Mishawaka	H. D	Miller, Martin	South Bend	H. D
Brown, Jacob R	South Bend	R. 10	McDonald, Thos. T	New Carlisle	R. 10
Butterworth, Wm. W	Mishawaka	R. D	Massy, T. F	New Carlisle	E. D
Barrett, John L	South Bend	R. D	Miller, Allen G	South Bend	R. 3
Berteling, John B	South Bend	R. D	Merritt, Alanson B	South Bend	R. D
Campbell, Alex. S	North Liberty	E. 10	McGill, John A	South Bend	H. D
Cassidy, John	South Bend	R. D	McAllister, Elbert W	South Bend	R. D
Carpender, Geo. W	South Bend	E. D	McCool, Amos W	Walkerton	R. 10
Church, Isaac W	Walkerton	E. D	McGill, Jas. P	South Bend	H. D
Chaffee, Walter D	South Bend	H. D	Norton, Dan'l H	South Bend	R. 10
Dunning, L. H	South Bend	R. D	O'Connor, Jos	North Liberty	R. 10
Daugherty, Chas. A	South Bend	R. D	Osborn, Geo. A	South Bend	R. D
Drollinger, E. M	South Bend	E. D	Osborn, Margaret	South Bend	R. 10
Davis, Jeremiah H	New Carlisle	R. D	Pierce, Wm. A	Osceola	R. 3
Dayton, Daniel	South Bend	R. D	Partridge, Joel M	South Bend	H. D
Endley, Jas. F	Walkerton	E. D	Rupp, P. E	South Bend	E. 3
Eliel, Leopold	South Bend	R. 10	Reece, Jas. N	North Liberty	R. D
Fast, Emmet E	Lakeville	R. D	Richmond, Chas. M	Walkerton	R. D
Fink, Henry A	Mishawaka	R. D	SAWYER, F. M	South Bend	R. D
Green, Jas. B	Mishawaka	R. 10	Sack, John C	South Bend	R. D
Grimes, Jas. F	Mishawaka	R. 10	Stockwell, Sarah F	South Bend	R. D
Grimes, John H	Mishawaka	E. D	Shaeffer, Geo. J	North Liberty	R. 10
Grime, Henry Y	Mill Creek	R. D	Schafer, Albert F	South Bend	R. D
Huntsinger, A	Mishawaka	E. D	Thorp, Baron C	Mishawaka	R. D
Harris, Robert	South Bend	E. 10	Ulery, S. H	South Bend	R. 10
Harris, Joel	New Carlisle	R. 10	Ullery, Arthur O	South Bend	H. D
Hanford, Wm. H	South Bend	H. D	Varier, Jas. A	North Liberty	R. D
Hill, J. Willis	South Bend	R. D	VanPelt, Ryan T	Mishawaka	R. D
Kilmer, Sam'l L	South Bend	R. D	VanRyper, A. N	New Carlisle	E. D
Loring, Sam'l C	Walkerton	R. D	Wickham, W. A. R	South Bend	E. D
Myers, Cornelius H	South Bend	H. D	Woodworth, H. A	Walkerton	R. 3
Montgomery, H. T	South Bend	R. D	Wagner, Albert L	South Bend	R. D
Moore, John	Lakeville	R. 10			

Regular, 46; Eclectic, 14; Homeopathic, 9.

Sullivan County.

Name.	*Post Office.*	*School.*		*Name.*	*Post Office.*	*School.*	
Bennett, J. H	Farmersburgh	E.	D	Lowder, C. M	Dugger	R.	D
Briggs, C. F	Sullivan	R.	D	Mason, T. A	Graysville	R.	D
Brown, N. S	Dugger	R.	10	Mathews, J. M	Carlisle	R.	D
Buskirk, J. S	Shelburn	R.	10	Mayfield, T. B	Plesantville	R.	D
Crowder, R. H	Sullivan	R.	D	Murphy, J. S	Sullivan	R.	3
Crowley, J. B	Sullivan	E.	D	Nebergall, J. W	Burchard	R.	10
Cushman, A	Graysville	R.	D	Osburn, D. S	Shelburn	R.	D
Daily, T. L	Paxton	R.	3	Phillips, J. L	Dugger	R.	3
Delashmut, V. E	Shelburn	R.	D	Plew, G. F	Pittsburgh	R.	D
Denison, E. D	Carlisle	R.	10	Robbins, Wm	Dugger	E.	D
Durham, J. L	Graysville	R.	D	Sanders, J. F	Sullivan	R.	3
FREEMAN, JOS	Sullivan	R.	D	Sharpless, Henry	Fairbanks	R.	D
Fleming, W. A	Plesantville	R.	3	Stone, W. O	Fairbanks	R.	D
Harper, H. F	Merom	R.	D	Thompson, J. J	Sullivan	R.	3
Harper, J. B	Shelburn	R.	10	Thompson, W. N	Sullivan	R.	D
Higbee, G. W	Sullivan	H.	D	Thralls, R. T	Pittsburgh	R.	D
Higbee, J. L	Sullivan	H.	D	Vancleve, R. H	Farmersburgh	R.	D
Jenkins, R. L	Carlisle	R.	3	Walters, J. A	Paxton	R.	D
Lisman, J. W	Buell City	R.	D	Weir, S. D	Sullivan	R.	D
Lisman, W. A	Carlisle	R.	D	Whalen, D. M	Carlisle	R.	10
Lisman, S. J	New Lebanon	R.	D	Young, J. M	Carlisle	R.	D

Regular, 37; Eclectic, 3; Homeopathic, 2.

Switzerland County.

Chever, E. M	Quercus Grove	R.	10	Olcott, W. A	Patriot	R.	D
Clarke, R. E	Mt. Sterling	R.	D	Rous, Hannah C	Vevay	R.	D.
Copeland, R. M	Bennington	R.	D	Sage, P. S	Vevay	R.	10
CRAIG, ALBERT G	Vevay	R.	D	Shadday, J. H	Vevay	R.	D
Culbertson, Scott	Moorefield	R.	D	Simpson, R. G	E. Enterprise	R.	D
Dalgleish, H. T	Vevay	R.	D	Smith, J. W	Vevay	H.	D
Elfers, John	Sugar Branch	R.	D	Vanosdol, C. L	Allensville	R.	D
Griffith, A. J	Mt. Sterling	R.	D	Vanosdol, J. W	Allensville	R.	D
Holland, P. C	Vevay	R.	D	Van Pelt, G. W	Vevay	R.	D
Jamison, R. A	Patriot	R.	D	Woodside, John S	Markland	R.	D
Langsdale, J. M. W	Florence	R.	D	Woodside, J. F. B	Markland	R.	D
McMillan, Wm	Sugar Branch	R.	10				

Regular, 22; Homeopathic, 1.

Tippecanoe County.

Anderson, Joseph H	Colburn	R.	D	Ensingard, J. A		R.	D
Ackerman, August C	Lafayette	H.	D	Fox, S. R	Lafayette	R.	3
Ayer, J. W	Lafayette	E.	D	Ficker, J. M		E.	D
Abbott, Abner	Lafayette	E.	D	Fox, R. N	Lafayette	R.	D
Armstrong, Lewis P	Lafayette	R.	D	Fifield, Alice P	Lafayette	R.	10
Boyd, B. H	Lafayette	R.	D	Goldsberry, Strader	Montmorenci	R.	D
Beasley, Geo. F	Lafayette	R.	D	Gray, James	Otterbein	R.	D
Burns, Geo. W	N.	R.	10	Hupe, Carl	Lafayette	R.	D
Baugh, Samuel L	Farmers' Inst'e	R.	D	Hunt, Cyrus E	Lafayette	R.	D
Brown, W. C	Buck Creek	R.	10	Harbaugh, C. A	Lafayette	R.	D
Baker, Joseph H	Stockwell	R.	D	Hiner, F P	W. Lafayette	R.	D
Boles, Smith L	Lafayette	R.	D	Hunt, Benham	Lafayette	E.	D
Brown, L. L	Stockwell	R.	3	Irwin, Luther M	Lafayette	R.	D
Black, D. R		R.	D	Ingersol, B. F	Lafayette	R.	D
Berryman, J. A	Lafayette N.	R.	10	Ingersol, J. M	Lafayette	R.	D
Barker, A. B		E.	D	Jackson, C. P	Lyfayette N.	R.	10
Baugham, D. M		E.	D	Keiter, C. B	Lafayette	R.	D
Barcus, Paul	Odell	R.	D	Kirkpatrick, Geo. W	Culver Station	R.	D
Charter, John H	Lafayette	R.	D	Keller, M. E		R.	D
Campbell, W. S	West Point	R.	D	Krouse, J. P	Dayton	R.	D
Crider, Geo. W	Buck Creek	R.	D	Labaree, Wm	Stockwell	R.	D
Crouse, J. H	Dayton	R.	D	Littell, Jno, V	Lafayette	R.	D
Drenhart, Michael	Lafayette	R.	10	Moffitt, Wm. R	W. Lafayette	R.	D
Detchon, S. S	N.	R.	10	MOFFITT, REUBEN	W. Lafayette	R.	D
Dunbar, James	Battle Ground	R.	10	McKinsey, Wm	N.	R.	10
Ellis, Jas. D	Battle Ground	R.	D	Mote, John O	Clark's Hill	R.	D

Tippecanoe County—Continued.

Name.	*Post Office.*	*School.*
Nesbit, Wm. S		R. D
Orth, Wm. M.	Lafayette	R. D
Ogborn, Job O	Buck Creek	E. 10
Osborn, Geo. A.		R. R
Osborn, M. A	Lafayette	N. R. 10
Odell, J. L		E. 3
Parker, Joseph		R. D
Potel, Christian	Lafayette	R. D
Perkins, E. E.	Lafayette	E. D
Pyle, A. D.	Romney	R. D
Power, E. D.	Lafayette	R. D
Peters, W. H	Lafayette	R. D
Rainey, H. W.	Lafayette	R. D
Riddell, H. D.	Battle Ground	R. D
Robinson, Rob't D	Colburn	R. D
Snyder, Lander	Lafayette	R. 10
Snow, W. D.	Lafayette	N. R. 10
Seawright, S. R.	Lafayette	R. D
Smith, J. T.	Lafayette	H. D
Spaulding, Joseph	W. Lafayette	R. D
Stattard, Jno	Monitor	R. 3
Shill, C. W	Lafayette	R. D
Simison, John	Romney	R. D
Simison, J. T.	Romney	R. D
Tea, Roger	Battle Ground	R. D
Throckmorton, Geo.	Lafayette	R. D
Vinnedge, W. W	Lafayette	R. D
Walker, W. S.	Lafayette	R. D
Washburn, Geo.	Lafayette	R. D
Washburn, S. S.	Lafayette	R. 10
Webster, Jno. C.	Lafayette	R. D
Wells, Albert A.	Lafayette	R. D
Wetherill, R. B.	Lafayette	R. D
Yeager, J. U.	Glen Hall	R. D
Yeakel, David T	Lafayette	R. D
Yount, Silas T	Lafayette	R. D

Regular, 70; Eclectic, 9; Homeopathic, 2; not reported, 7.

Tipton County.

Name.	*Post Office.*	*School.*
Armfield, T. O	Tipton	R. D
Austin, Winser.	Windfall	R. 10
Bunch, Robert A		E. D
Barnes, Robert A		P. M. D
Collins, Geo. M.	Tipton	R. D
Cooper, John	Groomsville	P. M. D
Doan, Nathan W.	New Lancaster	R. 10
DICKEY, A. S	Tipton	R. D
Downing, Samuel G	Hobbs	R. D
Glass, Wm. M	Atlanta	R. D
Gossett, Lucy	Kempton	P. M. D
Grove, Jasper M	Tipton	R. 10
Heath, Wm. N	Sharpsville	R. 3
Hildrup, J. R.	Windfall	H. D
Hunn, Willis B.	Tipton	H. D
Jessup, John T	Curtisville	R. D
Lindsey, James P	Sharpsville	R. 10
McCreary, Oliver P	Nevada	R. 3
Newcomer, M. V. B	Tipton	R. D
Pitzer, A. B	Tipton	R. D
Repp, Geo. R	Goldsmith	R. 3
Rubush, D. P.	Sharpsville	R. 3
Ross, L. N	Ekin	R. 10
Reed, Horace G	Tipton	R. D
Stevenson, Jos. A	Kempton	R. 3
Spitzmesser, John L	Windfall	R. 10
Somers, Jos. A	Groomsville	R. 10
Scott, Edwin	Kempton	E. D
Singleton, H. John	Tipton	R. D
Vickrey, M. V. B.	Tipton	R. D
Whelchell, Thos. C.	Goldsmith	R. 10
Wood, George C	Windfall	R. D

Regular, 25; Eclectic, 2; Homeopathic, 2; Physio-Medical, 3.

Union County.

Name.	*Post Office.*	*School.*
Applegate, R. S	Liberty	R. R
Green, D. W	Clifton	P.-M. R
Fosdick, A. C	Liberty	R. R
Hendricks, J. L	Liberty	R. 10
Hendricks, J. L	Liberty	— 3
Kell, S. D	Liberty	R. 10
McElwe, H. R	Coulter's Corner	R. D
Moore, H. H	Liberty	R. D
Morris, J. E	Liberty	R. D
PIGMAN, G	Liberty	R. D
Shriver, W. W	Liberty	E. 10
Seigler, Geo	Liberty	R. D
Smith, J. A	Boonville	R. D
Thompson, E. C	Liberty	H. D

Regular, 9; Eclectic, 1; Homeopathic, 1; Physio-Medical, 1; Not Reported, 1.

Vanderburg County.

Name.	*Post Office.*	*School.*
Achilles, F. W	Evansville	R. D
Allen, L. R	Evansville	R. 3
Alexander, William	Evansville	R. 3
Allison, James	Evansville	R. D
Armistead, R. A	Evansville	R. D
Bacon, C. P	Evansville	R. D
Begley, B. W	Evansville	R. D
Bennett, A. T	Evansville	R. D
Binkley, J. T	Evansville	R. D
Blount, J. F	Evansville	R. 10
Bray, M. J	Evansville	R. D
Brose, LD.	Evansville	R. D
Bryan, A. H	Evansville	R D
Bryan, Tony	Evansville	R. D
Caldwell, Matilda	Evansville	N. R. 10
Carter, E. L	Evansville	R. D
Clippinger, W. F	Evansville	R. D
Compton, J. W	Evansville	R. D
Corlew, R. M	Evansville	R. D
Cosby, G. P	Evansville	R. D
Couden, Wm. C.	Evansville	H. D
Davis, F. L	Evansville	H. D
Day, B. J	Evansville	R. D
Dixon, H. T.	Evansville	R. D
Dow, John L	Evansville	R. D
Failing, Walter	Evansville	R. 10
Fritsch, Ludwig	Evansville	R. 10
Fritsch, Wm. A.	Evansville	R. D

Vanderburg County—Continued.

Name.	*Post Office.*	*School.*
Gilbert, George	Evansville	R. 16
Glover, John F.	Evansville	R. D
Graham, J. J	Evansville	E. 10
Green, W. S	Evansville	R. 3
Gumaer, C. H	Evansville	R. D
Gumberts, Simon	Evansville	R. 10
Hartloff, Richard	Evansville	R. D
Hayden, A. M	Evansville	R. D
Heim, L. C	Evansville	R. D
Herr, L. S	Evansville	H. D
Hodson, George	Evansville	R. D
Hooker, H. H	Evansville	R. 10
Hayhurst, A. S	Evansville	R. 10
Hendrick, H. W	Evansville	E. D
Henderson, S. C	Evansville	R. D
JACOBSOHN, JOS	Evansville	R. D
Illing, A. F	Evansville	R. 10
Kerth, J. H	Evansville	R. D
Knapp, Chas	Evansville	R. D
Laval, Wm. J	Evansville	R. D
Laval, John	Evansville	R. 10
Linthecum, Edw	Evansville	R. D
Macer, Thomas	Evansville	E. D
Maghee, Wm. H	Evansville	R. D
Mason, Chas. H	Evansville	R. D
McClurkin, J. C	Evansville	R. D
McClurkin, John	Evansville	R. D
McCoy, P. Y	Evansville	R. D
McCoy, B. F	Evansville	R. D
McMahon, C. Agnes	Evansville	R. D
Marchand, V. H	Evansville	R. D
Moore, D. A.	Evansville	R. 3
Mountonux, C. G. R	Evansville	R. D
Mühlhausen, M	Evansville	R. D
Owen, A. M	Evansville	R. D
Owen, John. E	Evansville	R. D
Ocklman, C. L	Evansville	R. D
Ottman, P.	Evansville	R. D
Penington, J. J	Evansville	R. D
Pirnat, John	Evansville	R. D
Pollard, Wm. S	Evansville	R. D
Powell, T. E	Evansville	R. D
Pritchett, W. S	Evansville	R. D
Ralston, W. G	Evansville	R. D
Reavis, W. J	Evansville	R. D
Rose, W. B	Evansville	R. D
Ruark, Thos H	Evansville	R. D
Rucker, Thos. H	Evansville	R. D
Sawyer, F. W	Evansville	R. D
Shultz, Theodore	Evansville	H. 10
Schuyler, P. L	Evansville	R. D
Sieffert, A. H. H	Evansville	R. D
Spencer, E	Evansville	R. 10
Suiter, Wilhelmina	Evansville	R. 10
Taylor, T. H	Evansville	H. D
Tyrell, C. C	Evansville	H. D
Tillman, M.	Evansville	R. 10
Varner, Geo. W	Evansville	R. D
Vitzdomm, W	Evansville	R. 10
Walker, Edwin	Evansville	R. D
Walters, H. J	Evansville	R. D
Watkins, R. B	Evansville	R. D
Wedding, C. V	Evansville	R. D
Weover, J. B	Evansville	R. D
Wilde, O. E	Evansville	R. 10
Williams, Floyd	Evansville	R. D
Williams, Thos. F	Evansville	E. D
Wilton, Isaiah	Evansville	R. D
Worsham, L	Evansville	R. D
Witting, A. P	Evansville	R. D
Weber, Wm	Evansville	R. 10
Yates, G. W	Evansville	R. 10
Young, G. M	Evansville	R. D

Regular, 90; Eclectic, 4; Homeopathic, 6; not reported, 1.

Vermillion County.

Bogart, John H.	Clinton	R. D
Barnes, Jr., Jas. A	Gessie	R. D
Flaugher, E. A	Cayuga	R. D
HALL, M. L	Newport	R. D
Hall, Wm. I	Gessie	R. D
Harrison, J. C	Hillsdale	E. 10
Hord, Thos. C	Dana	R. D
Johnson, David B	Perrysville	R. 10
Henderson, J. T	Perrysville	R. 10
Keys, Otis M	Dana	R. D
Kindermann, Alex.	Eugene	R. D
Lonsdale, Thos. N	St. Bernice	R. D
Mack, Erastus	Hillsdale	E. 10
Nebeker, Henry	Clinton	R. D
Newton, G. O.	Dana	R. D
Patterson, W. P	Toronto	R. 3
Shepard, Lewis.	Newport	R. D
Shepard, Hiram	Dana	R. D
White, C. M	Clinton	R. D
Watkins, H. T	St. Bernice	H. D
Wallace, Jas	Newport	R. D
Webb, Jas. B	Perrysville	E. 10
McNeill, George	Perrysville	R. 10

Regular, 19; Eclectic, 3; Homeopathic, 1.

Vigo County.

Armstrong, Wm. P	Terre Haute	R. D
Askern, Cort F	Terre Haute	R. D
Allen, James L.	Terre Haute	H. D
Austin, Hannah H	Terre Haute	R. 3
Brunker, James W	Riley P. O	R. D
Baldridge, John H	Terre Haute	E. D
Ball, Lawrence S	Prairieton	E. D
Bennett, Stephen M	New Goshen	E. D
Brown, Theodore F	Sanford	R. 10
Belt, Richard.	Sanford	E. D
Ball, Cutter T	Terre Haute	R. D
Bates, Christopher C	Terre Haute	R. D
Bradley, Robert H	Terre Haute	R. D
Boyden, Wilbur A	Terre Haute	R. D
Crowley, Thomas N	Terre Haute	R. D
Crapo, Geo. W	Terre Haute	R. D
Crapo, John R	Terre Haute	R. D
Collings, Wm. O	Pimento	R. D
Carson, Lewis E	Prairieton	R. D
Caldwell, Henry H.	Terre Haute	E. 10
Casto, Jabez C	Terre Haute	R. D
Cole, Willis H	Terre Haute	R. D
Cadle, Wm. J.	Terre Haute	F. 10
Carson, Julian C	Middletown	R. 3
Cavins, Riley W	Terre Haute	R. D
Dooly, Rufus L	Atherton	R. 3
Dolson, James B	Pimento P. O.	R. 10
Drake, Thomas G	Terre Haute	R. D
Davis, John W	Pimento P. O.	R. D
Drake, James F	Prairieton	R. D
Dinton, Marguer'e E.	Pierson Tp	N. R. 10
Dowell, Solomon	Middletown	E. 10

Vigo County—Continued.

Name.	*Post Office.*	*School.*
Elder, William R.	Terre Haute	H. D
Eichelberger, Wm. C	Terre Haute	R. D
Everett, Geo. H.	Terre Haute	R. D
Erskine, Amos C	Terre Haute	R. D
Forcythe, Mary.	Terre Haute	R. D
Ferris, Edmond	Terre Haute	R. D
Gerstmeyer, C. P	Terre Haute	R. D
Glover, Elmer E	Terre Haute	R. D
Given, Charles C	Lewis P. O	R. D
Graham, Franklin B	Farmersburg	R. 10
Gilmore, Andrew H	Terre Haute	E. 3
Griffith, Lewis C	Lockport	R. D
Hickson, Geo. W	Terre Haute	R. D
Hartley, Hiram.	Terre Haute	R. D
Hickman, Cornel's W	Fontanet	R. D
Hyde, John.	Terre Haute	H. 3
Hanes, David.	Terre Haute	E. 10
Holloway, Theophlus.		R. 3
Haworth, W. W.	Terre Haute	R. D
Hendrick, H. W	Terre Haute	E. D
Hunt, John S.	W. Terre Haute	R. D
Hunt, Stephen	Terre Haute	R. D
Huff, John H	Sandford	R. 10
Hinkle, James S	Terre Haute	R. D
Jenkins, Wilbur O	Terre Haute	R. D
Kennedy, Thomas W.	Lewis	R. D
Langhead, James	Terre Haute	R. D
Littlejohn, Henry C	Riley	R. D
Larkins, Edgar L	Terre Haute	R. D
Link, John E	Terre Haute	R. D
Leachman, James S	Burnett	R. D
Lloyd, Thomas A	Prairieton	R. D
Melton, Seth B	Burnett	R. 3
Moorhead, Thomas W	Terre Haute	R. D
Mattox, W R	Youngstown	R. 3
McJohnston, A. D	Pimento	R. D
Morgan, John H	New Goshen	R. D
Moore, Wilmot	Terre Haute	R. D
Moore, James A	Prairie Creek.	H. D
Mann, Henry D	Terre Haute	R. D
Marlow, Austin	Terre Haute	E. 10
Mason, John C	Middletown	R. D
Mutz, Charles M	Terre Haute	R. D
Mattison, Fitch. C. E.	Vigo County	R. D
McCorkle, Thomas H.	Ellsworth	R. D
McLaughlin, James	Seelyville	R. D
McClain, Leslie	Terre Haute	R. D
McLain, Thomas J	Vigo County	R. D
Nebergall, Jas. W	Prairie Creek.	R. 10
Ogle, Jacob W	Prairieton	R. D
Preston, Samuel C	Terre Haute	R. D
Pike, Lyman	Terre Haute	E. 10
Pence, Allen	Terre Haute	E. 10
Pinson, Andrew J	New Goshen	R. D
Poindexter, John.	Nelson	R. D
Patmore, John S	Terre Haute	E. 10
Price, Wm. S	Atherton	R. 3
Pollitt, Francis M	Terre Haute	R. D
Roberts, Wm. H	Terre Haute	R. D
Russell, Charles W	Riley	R. D
Rice, Spencer M	Terre Haute	R. D
Sheickle, John T	Terre Haute	R. 10
Swafford, Benj. F.	Terre Haute	R. D
Spain, Archibald W	Terre Haute	R. D
Shaley, Fred. W	Terre Haute	R. D
Stunkard, Thos. C	Terre Haute	R. D
Swap, John H	Sandford	R. 10
Stark, Wm. I	Coal Bluff	H. D
Stock, Lewis	Lewis	E. D
Spencer, Wm. B	Terre Haute	R. D
Standacker, Albert.	Terre Haute	R. 3
Soper, Augustus	Terre Haute	R. D
Spottswood, E. T	Terre Haute	R. D
Treat, Horace J	Terre Haute	P.-M. D
Tomlin, Benj. F	Terre Haute	R. D
Thompson, J. C	Terre Haute	R. D
Talbot, John M	Prairie Creek.	R. 10
Tanner, Wm	Terre Haute	R. D
Thompson, M. H	Prairie Creek.	R. D
Willien, Leon J	Terre Haute	R. D
Waters, Moses H	Terre Haute	H. D
WEINSTEIN, L. J	Terre Haute	R. D
Watkins, Samuel.	Terre Haute	R. D
Worrell, Jonathan P	Terre Haute	R. D
Wilson, Angeline L	Terre Haute	H. D
Williamson, Jno. W	Terre Haute	E. D
Willis, Stephen D	Terre Haute	E. 10
Willis, James R	Terre Haute	R. D
Young, Stephen R	Terre Haute	R. D

Regular, 94; Eclectic, 18; Homeopathic, 7; Physio-Medical, 1; not reported, 1.

Wabash County.

Ader, Henry	Somerset	R. D
Blount, Rufus F	Wabash.	R. D
Biggerstaff, Jas. F	Lagro	R. D
Broadbeck, Geo. H	Roann	R. D
Brady, Thompson R	Wabash.	R. D
Brady, C. C	Lincolnville	R. D
Bloomer, Frank H	Lagro	R. D
Bricker, Wm	Lincolnville	R. D
Dicken, Jas. L	Lafontaine	R. D
Dicken, Constantin L.	Lafontaine	R. D
Donaldson, E. F	Wabash.	R. D
Dunn, Wesley A	Wabash.	H. D
Ellis, Chas. S	Wabash.	R. D
FORD, J. H.	Wabash.	R. D
Ginther, David.	N. Manchester	E. D
Goshorn, David A	N. Manchester	R. D
Hale, Marcus M	Wabash.	R. D
Hale, Norman	Wabash.	E. D
Hubbard, Elias.	N. Manchester	R. D
Jessup, Louisa	Wabash	R. D
Kidd, Gideon P.	Roann	R. D
Kautz, John	Lagro	R. D
King, Clifford H	Rich Valley	R. D
Lower, Melville O	N. Manchester	R. D
Lancaster, Thos. A	N. Manchester	R. D
Minnick, Horace R.	Treaty	R. D
Mooney, Henry C.	Laketon	R. D
Modrecker, John M.	Wabash.	R. D
Moore, Perry G	Wabash.	R. D
Miesner, Harry E.	Servia	R. D
Martin, Henry E	Urbana.	R. D
McGrew, W. H	Lafontaine	E. D
Richards, John.	Dora	R. D
Renner, John H	Lagro.	R. D
Renner, Emanuel	Lagro.	R. D
Smith, Andrew J	Wabash.	R. D
Stradley, Daniel	Wabash.	R. D
Studley, Joseph.	Lafontaine	R. D
Shaffer, Phillip.	N. Manchester	R. D
Shelhammer, D. C	Puckerbrush	R. D
Thomas, A. McD	Lafontaine	R. D
Tresh, Philip	Liberty Mills.	R. D
Wells, Wm	Laketon	R. D
Winton, Horace	N. Manchester	R. D

Regular, 39; Eclectic, 4; Homeopathic, 1.

Warren County.

Name.	*Post Office.*	*School.*
Brown, Nathan S	State Lime	R. 10
DEHART, JACOB	Williamsport	R. D
Fenton, Samuel C	Pine Village	R. D
Fleming, Jackson	West Lebanon	R. 10
Green, Wilber H	Hedrick	R. D
Hoffman, Chas. H	Rainsville	R. D
Jones, J. W	Marshfield	R. D
McMullen, Jas. W	Pine Village	R. 3
Osborn, S. N	Williamsport	R. D
Reed, Sam'l M	Independence	R. D
Roseburg, S. A	Independence	R. 3
Swank, Leroy	Williamsport	R. D
Stewart, John C	Marshfield	R. D
Simpkins, Robt. J	Williamsport	R. 10
Trent, John H	West Lebanon	R. 10
Vick, Wm. B	Green Hill	E. D

Regular, 15; Eclectic, 1.

Warrick County.

Beeler, Jerome S	Boonville	E. D
Brown, A. T	Heilman	R. 3
Baldwin, I. J	Lynnville	R. D
Bryant, Jus H	Heilman	R. 3
Bradley, John H	Folsomville	E. 10
Camp, W. O	Dickeyville	E. 10
Camp, Wm. T	Lynnville	E. 3
Railey, T. G	Boonville	R. 10
De Forest, D. A	De Forest Stat'n	R. D
Howard, T. M	Boonville	R. D
Hewins, W. A	Chandler	R. D
Hunt, W. A.	Lynnville	E. 10
Hedden, G. J	Selvin	R. 10
Hemmel, John	Wheatonville	R. D
Hoover, P. N	Boonville	H. D
Honeycutt, W. J	Ditney	R. D
Hart, E. H	Tennison	R. 10
Jones, T. B	Lynnville	R. D
Keegan, C. J	Canal	R. D
Keefer, C	Newburgh	H. 10
Leache, George	Newburgh	R. D
Mills, W. H	Folsomville	R. D
McCoy, T. J	Edy	R. 10
McVey, W. H	De Gonia Spr'gs	R. 10
McCool, H. F	Chandler	R. D
McBride, Thos. N	Folsomville	R. D
Newton, J. A	Boonville	H. 10
PATTERSON, P. N	Boonville	H. D
Parke, Charles	Boonville	R. 21
Quiatts, Allison	Tennison	R. 10
Rhoades, Robt. R	Yankeetown	R. D
Scales, W. B	Boonville	R. D
Shaul, M	Boonville	R. D
Smith, Thomas	Canal	R. D
Slaughter, W. W	Newburgh	R. D
Simons, P.	Lynnville	R. D
Scales, T. D.	Boonville	R. D
Temple, W. D.	Selvin	R. D
Tyner, S. L	Boonville	R. D
Tilman, J. R	Newburgh	R. D
Thompson, Peter S	Newburgh	R. D
Tucker, Davis W	Tennison	R. D
West, E. A	Folsomville	R. 10
Wilson, Westley	Yankeetown	R. D
Watson, W. D	Tennison	R. 3
Zimmerman, J	Lynnville	R. 10

Regular, 37; Eclectic, 5; Homeopathic, 4.

Washington County.

Applegate, George	South Boston	W. R. 10
Baker, T. H. B	Pekin	R. D
Barnett, J. T	Hardinsburgh	R. D
Bright, W. H	Martinsburgh	R. D
Bradshaw, A. E	Halo	R. D
Bare, John R.	Salem	R. D
Duff, S. W	Salem	R. D
Deweese, G. W	Fredricksburgh	R. 10
Doolittle, J. H	Campbellsb'rgh	R. D
Ferree, Isaac	Livonia	R. D
Hudson, L. H.	Little York	E. D
Howard, S. B.	Kossuth	R. 3
Hancock, G. S	Campbellsb'rgh	R. D
Herron, T. W.	Lesterville	R. 10
Hobbs, H. C	Salem	E. D
Hoggett, M. L	Salem	E. 10
Hon, G. W	Hardinsburgh	R. D
Henderson, H. D	Salem	R. D
Henderson, J. P	Salem	R. D
Lockhart, Thomas	Campbellsb'rgh	E. 3
Layman, J. H	Chestnut Hill	R. 10
Murphy, C. W	Salem	R. D
Martin, R. W.	Salem	R. D
Maxedon, R. W.	Hardinsburgh	R. D
McPheeters, J. S	Hardinsburgh	R. D
Martin, W. H.	Campbellsb'rgh	R. 10
Neyman, E. M. C.	Saltilloville	R. 10
Oatley, J. H	N. Philadelphia	R. 10
Overman, W. M	Salem	P. M. D
Overman, E. T	Salem	P. M. D
Paynter, C. L.	Salem	R. D
PURKHISER, W. J	Insane Hosp't'l, Indianapolis	R. D
Rathburn, Chas	Salem	R. 10
Roberts, Samuel A	Fredricksburgh	R. D
Spurgeon, A. N.	South Boston	R. D
Schoonover, W. S.	Hardinsburgh	R. 10
Tucker, T. M	Salem	R. 10
Tucker, W. W	Salem	R. D
Voyles, V. A	Livonia	R. 3
Wier, A. G	Kossuth	R. D

Regular, 33; Eclectic, 4; Physio-Medical, 2; not reported, 1.

Wayne County.

Name.	*Post Office.*	*School.*
Allen, John B.	Hagerstown	R. D
Bond, Chas. S.	Richmond	R. D
Ballenger, W. L.	Richmond	R. D
Baldwin, Geo. C	Dalton	N. R. 3
Benham, H. C.	Richmond	E. D
Ballard, Nath. H.	Richmond	R. D
Bapport, A	Richmond	R. 10
Balcom, Lafayette	Richmond	R. D
Bulla, J. M.	Richmond	H. D
Boyd, H. B	Cambridge City	R. D
Bunnell, R. W	Greensfork	R. D
Buntin, E. A	Greensfork	R. D
Carr, O. C.	Boston	E. D
Colburn, C. P.	Richmond	R. D
Canaday, N. F	Hagerstown	H. D
Clark, J. B	Economy	R. D
Clark, J. M.	Economy	R. 10
Carpenter, D. L.	Camb. City	N. R. 10
Dempsey, Wm. S.	Richmond	R. D
Dwiggins, M. F.	Richmond	R. D
Davis, T. H.	Richmond	H. D
Day, G. W	Dublin	H. 10
Emmons, Josh	Richmond	H. D
Fisher, A. W	Richmond	P.-M. D
Gordon, G. C	Centreville	R. 10
Gabel, Harrison	Centreville	R. D
Grosvenor, E. B.	Richmond	H. D
Griffis, W. T.	Whitewater	E. D
Graham, Wm. B	Whitewater	E. 3
Helm, Wm. M.	Williamsburg	E. D
Homsher, Geo. W.	Dublin	N. R. 10
HIBBERD, JAS. F.	Richmond	R. D
Harold, C. N	Richmond	P.-M. D
Hobbs, M. W	Richmond	R. D
Howells, Joseph	Richmond	H. D
Hadley, Edwin	Richmond	R. 10
Haynes, M. H.	Richmond	R. D
Hopkins, Rob't R.	Richmond	R. D
Harris, J. I.	Fountain City	R. D
Harter, Wm. W.	Hagerstown	P.-M. D
Intzi, Joseph	Richmond	R. D
Johnson, M. F	Richmond	R. D
Jay, W. C.	Richmond	E. D
Johnson, L. C.	Fountain City	R. D
Johnson, W. A	Chester	E. D
Kelsey, L. S.	Richmond	R. D
Kersey, C. A	Richmond	R. D
King, Jas. E	Richmond	R. D
Kinsey, J. H	Richmond	P.-M. D
King, Wm. F.	Centreville	R. D
Keney, S. H.	Centreville	R. D
Loar, Apollos	Richmond	P.-M. D
Luken, J. H.	Richmond	R. D
Lewis, J. V.	Richmond	H. D
Lowe, G. N.	Hagerstown	N. R. D
Moore, C. H	Richmond	R. D
Mendenhall, W. O	Richmond	R. D
Morrow, Sarah J	Richmond	R. 3
Murray, Nancy J.	Richmond	N. R. 3
Millikan, Jabez	Economy	R. D
Meek, Joseph	Webster	R. 10
Mauk, J. R.	Cambridge City	R. D
Mann, Leonidas	Dublin	4 D
McQuitt, E. G	Richmond	4 D
McSimpson, John	Richmond	E. D
McClelland, J. S	Dublin	E. D
McTaggart, C. R	Dublin	E. D
Neff, W. W	Greensfork	R. 3
Pitman, Henderson	Hagerstown	R. 3
Quick, J. C	Hagerstown	P.-M. D
Rusk, Anna P	Richmond	P.-M. D
Robbins, G. W	Richmond	R. D
Reynolds, M. J	Richmond	H. D
Reed, Wilson	Centerville	N. R. D
Rife, J. J	Boston	R. D
Rutledge, J. W	Cambridge City	R. D
Study, J. N	Cambridge City	R. D
Sweeny, I. F	Milton	R. D
St. Clair, J. W	Milton	R. 10
Summers, J. B	Milton	R. D
Swallow, J. E	Abington	R. D
Shoff, J. S	East Germant'n	R. D
Schitneck, V. G	Economy	R. D
Taylor, Jas. E	Richmond	R. D
Teague, Isaac C	Richmond	H. 10
Taylor, T. W	Fountain City	R. D
Tillson, Hosea	Centerville	R. 10
Tayler, L. B	Dublin	R. 10
Thurston, E. H	Hagerstown	P.-M. 10
Thurston, J. M	Richmond	P.-M. D
Tayler, L. P	Williamsb'g	P.-M. D
Watts, John S	Richmond	E. D
Watts, E. K	Richmond	R. D
Wampler, J. M	Richmond	R. 3
Weist, J. R	Richmond	R. D
Wright, I. E	Hagerstown	E. D
Witmer, B. M	Milton	E. 10
Williams, Wm	Whitewater	E. 10
Wray, Hardy	Dublin	E. 10
Wray, Hiram B	Dublin	E. D
Zimmerman, Wm	Richmond	H. D

Regular, 55; Eclectic, 16; Homeopathic, 13; Physio-Medical, 10; not reported, 6.

Wells County.

Bugh, John W	Bluffton	R. D
Campbell, A. R.	Murray	R. D
Calderwod, Geo	Reifsburg	— 10
COOK, L. H.	Bluffton	R. D
Cassell, Geo. W	Keystone	R. D
Dostor, Hezekiah	Poneto	R. D
Davenport, Evan P.	Craigville	R. D
English, Calvin H	Uniondale	R. D
Fulton, Jno. C	Bluffton	R. 10
Fulton, Geo. E	Bluffton	R. D
Fizpatrick, Job D	Vera Cruz	— 10
Garett, Frank W	Liberty Center	R. D
Goodin, Samuel A	Nottingham	R. 10
Horton, E. R	Bluffton	E. D
Horton, Theodore	Bluffton	— 10
Hughton, Asa	Keystone	— 10
Hatfield, Isaac N	Bluffton	R. D
Raford, Kraw	Keystone	— 10
Mason, Leonedas	Bluffton	R. D
Metts, J. I	Ossian	— 10
Metts, Alfred H	Ossian	R. 10
Morris, Thomas	Mt. Zion	R. D
Murray, Lucien	Zanesville	R. D
Mickey, Harvey P	Keystone	R. D
Noble, Henry Z	Zanesville	R. D
Neff, Isaac N	Mt. Zion	— 10
Newman, M. W	Ossian	R. D
Spaulding, L. A	Bluffton	R. D
Springstead, A. E	Bluffton	H. D
Waldron, R. A	Nottingham	R. 10
Weer, H. H.	Bluffton	E. D
Walser, John A	Beuna Vista	R. D

Regular, 22; Eclectic, 2; Homeopathic, 1; not reported, 7.

White County.

Name.	*Post Office.*	*School.*		*Name.*	*Post Office.*	*School.*	
Ballow, A. B	Burnettsville.	R.	D	McCann, J. H.	Monticello	E.	D
Baugh, W. J	Chalmers	R.	D	Medaus, John	Brookston	R.	10
Carr, Jas. L.	Monon	R.	D	Reed, John H.	Idaville.	R.	D
Cowger, S. R	Monticello	E.	D	Reed, John F.	Monon	E.	10
Clark, R. J	Monticello	R.	D	Robison, T. B.	Monticello	E.	D
Cooper, W. B	Monticello	R.	D	Scott, Caleb.	Monticello	P.-M.	10
Clayton, G. R.	Monon	R.	D	Smith, J. F	Brookston	R.	D
Didlake, M. T	Monticello	R.	D	SMALL, H. E	Wolcott.	E.	D
Delzell, R. M.	Reynolds	R.	D	Sluyter, S. R.	Reynolds	E.	3
Grant, F. A.	Wolcott	R.	10	Samson, W. H	Brookston	E.	10
Jones, A. B	Burnettsville	R.	D	Noland, R.	Buffalo	R.	D
Kelly, D. M.	Brookston	R.	D	Trowbridge, W. V	Burnettsville.	R.	D
McAllister, J. W	Idaville	R.	3	Welle, Isadora	Silka	P.-M	10

Regular, 17; Eclectic, 7; Physio-Medical, 2.

Whitley County.

Amerman, S. D.	Columbia City	H.	10	Lafollette, T. J.	South Whitley	R.	D
Creswell, John F	Cherubusco.	R.	D	Merriman, E	South Whitley	R.	D
Coyle, Wm. Henry	Hecla.	R.	D	Magers, Francis M	Cherubusco.	R.	D
Eberhart, Eli L.	South Whitley	R.	D	Richards, John	Laud	R.	D
Greiser, Frederick G	Collins	R.	D	Squires, James W	Cherubusco.	R.	D
Geare, John W	Coesse.	R.	D	Souder, Christian.	Larwill	R.	D
Houtz, Wm. Cyrus	Hecla	R.	D	Scott, J. Wm. C.	Hecla.	R.	D
Ireland, Martin	Columbia City	R.	D	Wenger, Noah R	Coesse	R.	D
Kithcart, Nathan J.	Columbia City	R.	D	Webster, David.	Columbia City	R.	D
Kirkpatrick, Daniel	Larwill	R.	D	Webster, Monroe W	South Whitley	R.	D
Linvill, D. Goff.	Columbia City	R.	D	Williams, Charles S	Columbia City	R.	10
Linvill, David S	Columbia City	R.	D	White, Samuel R	Laud	R.	D
Lawrence, I. E	Columbia City	R.	D	WEBER, WILLIAM.	Columbia City	R.	D

Regular, 24; Eclectic, 1; Homeopathic, 1.

RECAPITULATION.

Regulars	3,390
Eclectics	490
Homeopathics	213
Physio-Medicals	145
Not reported	162
Total	4,400

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